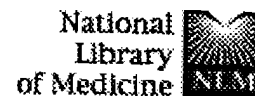


WEST Search History

DATE: Friday, April 16, 2004

Hide?	Set Name	Query	Hit Count
<i>DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI; PLUR=YES; OP=ADJ</i>			
<input type="checkbox"/>	L10	L6 AND LTK	3
<input type="checkbox"/>	L9	pleiotrophin receptor	2
<input type="checkbox"/>	L8	L6 AND receptor	199
<input type="checkbox"/>	L7	L6 AND ALK	5
<input type="checkbox"/>	L6	(pleiotrophin)	250
<input type="checkbox"/>	L5	L4 AND pleiotrophin	31
<input type="checkbox"/>	L4	(530/300,350.CCLS.)	15901
<input type="checkbox"/>	L3	Wellstein-A.IN.	12
<input type="checkbox"/>	L2	Wellstein-Anton.IN.	12
<input type="checkbox"/>	L1	(Wellstein.IN.)	44

END OF SEARCH HISTORY



Entrez PubMed Nucleotide Protein Genome Structure OMIM PMC Journals Books

Search PubMed for pleiotrophin

Limits Preview/Index History Clipboard Details

About Entrez

Show:

Text Version

Items 1-253 of 253

One page.

Entrez PubMed

Overview
Help | FAQ
Tutorial
New/Noteworthy
E-Utilities

PubMed Services











Journals Database
MeSH Database
Single Citation Matcher
Batch Citation Matcher
Clinical Queries
LinkOut
Cubby



















Related Resources

Order Documents
NLM Gateway
TOXNET
Consumer Health
Clinical Alerts
ClinicalTrials.gov
PubMed Central


Privacy Policy


- 1: [Ohyama K, Tan-Takeuchi K, Kutsche M, Schachner M, Uyemura K, Kawamura K.](#) Related Articles, Links
Neural cell adhesion molecule L1 is required for fasciculation and routing of thalamocortical fibres and corticothalamic fibres.
Neurosci Res. 2004 Apr;48(4):471-5.
PMID: 15041201 [PubMed - in process]
- 2: [Kadomatsu K, Muramatsu T.](#) Related Articles, Links
Midkine and pleiotrophin in neural development and cancer.
Cancer Lett. 2004 Feb 20;204(2):127-43.
PMID: 15013213 [PubMed - in process]
- 3: [Heroult M, Bernard-Pierrot I, Delbe J, Hamma-Kourbali Y, Katsoris P, Barritault D, Papadimitriou E, Plouet J, Courty J.](#) Related Articles, Links
Heparin affin regulatory peptide binds to vascular endothelial growth factor (VEGF) and inhibits VEGF-induced angiogenesis.
Oncogene. 2004 Mar 4;23(9):1745-53.
PMID: 15001987 [PubMed - indexed for MEDLINE]
- 4: [Tsai WC, Tsai ST, Ko JY, Jin YT, Li C, Huang W, Young KC, Lai MD, Liu HS, Wu LW.](#) Related Articles, Links
The mRNA profile of genes in betel quid chewing oral cancer patients.
Oral Oncol. 2004 Apr;40(4):418-26.
PMID: 14969821 [PubMed - in process]
- 5: [Henger A, Kretzler M, Doran P, Bonrouhi M, Schmid H, Kiss E, Cohen CD, Madden S, Porubsky S, Grone EF, Schlondorff D, Nelson PJ, Grone HJ.](#) Related Articles, Links
Gene expression fingerprints in human tubulointerstitial inflammation and fibrosis as prognostic markers of disease progression.
Kidney Int. 2004 Mar;65(3):904-17.
PMID: 14871410 [PubMed - in process]
- 6: [Umehara Y, Yamada S, Nishimura S, Shioi J, Robakis NK, Sugahara K.](#) Related Articles, Links
Chondroitin sulfate of appican, the proteoglycan form of amyloid precursor protein, produced by C6 glioma cells interacts with heparin-binding neuroregulatory factors.
FEBS Lett. 2004 Jan 16;557(1-3):233-8.
PMID: 14741373 [PubMed - indexed for MEDLINE]
- 7: [Brunet-de Carvalho N, Raulais D, Rauvala H, Souttou B, Vigny M.](#) Related Articles, Links
HB-GAM/Pleiotrophin and Midkine are differently expressed and distributed during retinoic acid-induced neural differentiation of P19 cells.
Growth Factors. 2003 Sep-Dec;21(3-4):139-49.
PMID: 14708942 [PubMed - in process]
- 8: [Matsuoka A, Tsuchiya T.](#) Related Articles, Links


-  **Gene expression changes in BALB/3T3 transformants induced by poly(L-lactic acid) or polyurethane films.**
J Biomed Mater Res. 2004 Feb 1;68A(2):376-82.
PMID: 14704980 [PubMed - in process]
- 9:** [Bao X, Nishimura S, Mikami T, Yamada S, Itoh N, Sugahara K.](#) Related Articles, Links
-  **Chondroitin sulfate/dermatan sulfate hybrid chains from embryonic pig brain, which contain a higher proportion of L-iduronic acid than those from adult pig brain, exhibit neuritogenic and growth factor binding activities.**
J Biol Chem. 2004 Mar 12;279(11):9765-76. Epub 2003 Dec 29.
PMID: 14699094 [PubMed - in process]
- 10:** [Ulbricht U, Brockmann MA, Aigner A, Eckerich C, Muller S, Fillbrandt R, Westphal M, Lamszus K.](#) Related Articles, Links
-  **Expression and function of the receptor protein tyrosine phosphatase zeta and its ligand pleiotrophin in human astrocytomas.**
J Neuropathol Exp Neurol. 2003 Dec;62(12):1265-75.
PMID: 14692702 [PubMed - indexed for MEDLINE]
- 11:** [Sakurai H.](#) Related Articles, Links
-  **Molecular mechanism of ureteric bud development.**
Semin Cell Dev Biol. 2003 Aug;14(4):217-24. Review.
PMID: 14627120 [PubMed - indexed for MEDLINE]
- 12:** [Paddock HN, Schultz GS, Baker HV, Varela JC, Beierle EA, Moldawer LL, Mozingo DW.](#) Related Articles, Links
-  **Analysis of gene expression patterns in human postburn hypertrophic scars.**
J Burn Care Rehabil. 2003 Nov-Dec;24(6):371-7.
PMID: 14610421 [PubMed - indexed for MEDLINE]
- 13:** [Petersen W, Wildemann B, Pufe T, Raschke M, Schmidmaier G.](#) Related Articles, Links
-  **The angiogenic peptide pleiotrophin (PTN/HB-GAM) is expressed in fracture healing: an immunohistochemical study in rats.**
Arch Orthop Trauma Surg. 2003 Oct 30 [Epub ahead of print]
PMID: 14586627 [PubMed - as supplied by publisher]
- 14:** [Murasugi A, Kido I, Kumai H, Asami Y.](#) Related Articles, Links
-  **Efficient production of recombinant human pleiotrophin in yeast, *Pichia pastoris*.**
Biosci Biotechnol Biochem. 2003 Oct;67(10):2288-90.
PMID: 14586125 [PubMed - in process]
- 15:** [Muller S, Kunkel P, Lamszus K, Ulbricht U, Lorente GA, Nelson AM, von Schack D, Chin DJ, Lohr SC, Westphal M, Melcher T.](#) Related Articles, Links
-  **A role for receptor tyrosine phosphatase zeta in glioma cell migration.**
Oncogene. 2003 Oct 2;22(43):6661-8.
PMID: 14555979 [PubMed - indexed for MEDLINE]
- 16:** [Barthlen W, Flaadt D, Girgert R, Conzelmann J, Schweizer P, Zugmaier G, Buck M, Knabbe C.](#) Related Articles, Links
-  **Significance of heparin-binding growth factor expression on cells of solid pediatric tumors.**
J Pediatr Surg. 2003 Sep;38(9):1296-304.
PMID: 14523809 [PubMed - indexed for MEDLINE]
- 17:** [Mentlein R, Held-Feindt J.](#) Related Articles, Links
-  **Angiogenesis factors in gliomas: a new key to tumour therapy?**
Naturwissenschaften. 2003 Sep;90(9):385-94. Epub 2003 Jul 29. Review.
PMID: 14504780 [PubMed - indexed for MEDLINE]


-  **18:** [Aigner A, Brachmann P, Beyer J, Jager R, Raulais D, Vigny M, Neubauer A, Heidenreich A, Weinknecht S, Czubayko F, Zugmaier G.](#) [Related Articles, Links](#)
-  **Marked increase of the growth factors pleiotrophin and fibroblast growth factor-2 in serum of testicular cancer patients.**
Ann Oncol. 2003 Oct;14(10):1525-9.
PMID: 14504053 [PubMed - indexed for MEDLINE]
-  **19:** [Yang XB, Green DW, Roach HI, Clarke NM, Anderson HC, Howdle SM, Shakesheff KM, Oreffo RO.](#) [Related Articles, Links](#)
-  **Novel osteoinductive biomimetic scaffolds stimulate human osteoprogenitor activity--implications for skeletal repair.**
Connect Tissue Res. 2003;44 Suppl 1:312-7.
PMID: 12952215 [PubMed - indexed for MEDLINE]
-  **20:** [Maeda N, He J, Yajima Y, Mikami T, Sugahara K, Yabe T.](#) [Related Articles, Links](#)
-  **Heterogeneity of the chondroitin sulfate portion of phosphacan/6B4 proteoglycan regulates its binding affinity for pleiotrophin/heparin binding growth-associated molecule.**
J Biol Chem. 2003 Sep 12;278(37):35805-11. Epub 2003 Jul 02.
PMID: 12840014 [PubMed - indexed for MEDLINE]
-  **21:** [Hida H, Jung CG, Wu CZ, Kim HJ, Kodama Y, Masuda T, Nishino H.](#) [Related Articles, Links](#)
-  **Pleiotrophin exhibits a trophic effect on survival of dopaminergic neurons in vitro.**
Eur J Neurosci. 2003 May;17(10):2127-34.
PMID: 12786979 [PubMed - indexed for MEDLINE]
-  **22:** [Ikematsu S, Nakagawara A, Nakamura Y, Sakuma S, Wakai K, Muramatsu T, Kadomatsu K.](#) [Related Articles, Links](#)
-  **Correlation of elevated level of blood midkine with poor prognostic factors of human neuroblastomas.**
Br J Cancer. 2003 May 19;88(10):1522-6.
PMID: 12771916 [PubMed - indexed for MEDLINE]
-  **23:** [Brockmann MA, Ulbricht U, Gruner K, Fillbrandt R, Westphal M, Lamszus K.](#) [Related Articles, Links](#)
-  **Glioblastoma and cerebral microvascular endothelial cell migration in response to tumor-associated growth factors.**
Neurosurgery. 2003 Jun;52(6):1391-9; discussion 1399.
PMID: 12762884 [PubMed - indexed for MEDLINE]
-  **24:** [Wang D, Oparil S, Feng JA, Li P, Perry G, Chen LB, Dai M, John SW, Chen YF.](#) [Related Articles, Links](#)
-  **Effects of pressure overload on extracellular matrix expression in the heart of the atrial natriuretic peptide-null mouse.**
Hypertension. 2003 Jul;42(1):88-95. Epub 2003 May 19.
PMID: 12756220 [PubMed - indexed for MEDLINE]
-  **25:** [Winkler C, Schafer M, Duschl J, Schartl M, Volf JN.](#) [Related Articles, Links](#)
-  **Functional divergence of two zebrafish midkine growth factors following fish-specific gene duplication.**
Genome Res. 2003 Jun;13(6A):1067-81. Epub 2003 May 12.
PMID: 12743018 [PubMed - indexed for MEDLINE]
-  **26:** [Pufe T, Bartscher M, Petersen W, Tillmann B, Mentlein R.](#) [Related Articles, Links](#)
-  **Pleiotrophin, an embryonic differentiation and growth factor, is expressed in osteoarthritis.**


Osteoarthritis Cartilage. 2003 Apr;11(4):260-4.
PMID: 12681952 [PubMed - indexed for MEDLINE]


-  **27:** [Tanaka M, Maeda N, Noda M, Marunouchi T.](#) Related Articles, Links


 **A chondroitin sulfate proteoglycan PTPzeta /RPTPbeta regulates the morphogenesis of Purkinje cell dendrites in the developing cerebellum.**
J Neurosci. 2003 Apr 1;23(7):2804-14.
PMID: 12684467 [PubMed - indexed for MEDLINE]


-  **28:** [Okopien B, Cwalina L, Haberka M, Kowalski J, Zielinski M, Szwed Z, Kalina Z, Herman ZS.](#) Related Articles, Links


 **[Pleiotropic effects of micronized fenofibrate in patients with combined hyperlipidemia]**
Pol Merkuriusz Lek. 2002 Dec;13(78):465-9. Polish.
PMID: 12666442 [PubMed - indexed for MEDLINE]


-  **29:** [Moon HS, Park WI, Sung SH, Choi EA, Chung HW, Woo BH.](#) Related Articles, Links

 **Immunohistochemical and quantitative competitive PCR analyses of midkine and pleiotrophin expression in cervical cancer.**
Gynecol Oncol. 2003 Mar;88(3):289-97.
PMID: 12648577 [PubMed - indexed for MEDLINE]


-  **30:** [Pufe T, Bartscher M, Petersen W, Tillmann B, Mentlein R.](#) Related Articles, Links


 **Expression of pleiotrophin, an embryonic growth and differentiation factor, in rheumatoid arthritis.**
Arthritis Rheum. 2003 Mar;48(3):660-7.
PMID: 12632418 [PubMed - indexed for MEDLINE]


-  **31:** [Fujikawa A, Shirasaka D, Yamamoto S, Ota H, Yahiro K, Fukada M, Shintani T, Wada A, Aoyama N, Hirayama T, Fukamachi H, Noda M.](#) Related Articles, Links

 **Mice deficient in protein tyrosine phosphatase receptor type Z are resistant to gastric ulcer induction by VacA of Helicobacter pylori.**
Nat Genet. 2003 Mar;33(3):375-81. Epub 2003 Feb 24. Erratum in: Nat Genet. 2003 Apr;33(4):533.
PMID: 12598897 [PubMed - indexed for MEDLINE]


-  **32:** [Scykora JT, Jih D, Elenitsas R, Horng WH, Elder DE.](#) Related Articles, Links


 **Gene expression profiling of melanocytic lesions.**
Am J Dermatopathol. 2003 Feb;25(1):6-11.
PMID: 12544092 [PubMed - indexed for MEDLINE]


-  **33:** [Yang X, Tare RS, Partridge KA, Roach HI, Clarke NM, Howdle SM, Shakesheff KM, Oreffo RO.](#) Related Articles, Links

 **Induction of human osteoprogenitor chemotaxis, proliferation, differentiation, and bone formation by osteoblast stimulating factor-1/pleiotrophin: osteoconductive biomimetic scaffolds for tissue engineering.**
J Bone Miner Res. 2003 Jan;18(1):47-57.
PMID: 12510805 [PubMed - indexed for MEDLINE]

-  **34:** [Dong Y, He C, Lu CL.](#) Related Articles, Links


 **[Recent advances in the studies of Midkine family]**
Sheng Li Ke Xue Jin Zhan. 1998 Jan;29(1):52-4. Review. Chinese. No abstract available.
PMID: 12501706 [PubMed - indexed for MEDLINE]

-  **35:** [Aigner A, Fischer D, Merdan T, Brus C, Kissel T, Czubayko F.](#) Related Articles, Links


 **Delivery of unmodified bioactive ribozymes by an RNA-stabilizing polyethylenimine (LMW-PEI) efficiently down-regulates gene expression.**


Gene Ther. 2002 Dec;9(24):1700-7.
PMID: 12457284 [PubMed - indexed for MEDLINE]


 **36:** [Beltran PJ, Bixby JL.](#) Related Articles, Links


 **Receptor protein tyrosine phosphatases as mediators of cellular adhesion.**
Front Biosci. 2003 Jan 1;8:d87-99. Review.
PMID: 12456340 [PubMed - indexed for MEDLINE]


 **37:** [Mentlein R, Held-Feindt J.](#) Related Articles, Links

 **Pleiotrophin, an angiogenic and mitogenic growth factor, is expressed in human gliomas.**
J Neurochem. 2002 Nov;83(4):747-53.
PMID: 12421346 [PubMed - indexed for MEDLINE]


 **38:** [Tare RS, Oreffo RO, Sato K, Rauvala H, Clarke NM, Roach HI.](#) Related Articles, Links

 **Effects of targeted overexpression of pleiotrophin on postnatal bone development.**
Biochem Biophys Res Commun. 2002 Nov 1;298(3):324-32.
PMID: 12413943 [PubMed - indexed for MEDLINE]


 **39:** [Tare RS, Oreffo RO, Clarke NM, Roach HI.](#) Related Articles, Links


 **Pleiotrophin/Osteoblast-stimulating factor 1: dissecting its diverse functions in bone formation.**
J Bone Miner Res. 2002 Nov;17(11):2009-20.
PMID: 12412809 [PubMed - indexed for MEDLINE]


 **40:** [Wang Y, Chen Z, Chen Z, Guan X, Song H, Wu X, Liu Y.](#) Related Articles, Links


 **Recombinant human heparin-binding neurite-promoting factor expressed with yeast stimulates neurites outgrowth.**
Chin Med J (Engl). 2002 Sep;115(9):1352-7.
PMID: 12411111 [PubMed - indexed for MEDLINE]


 **41:** [Kabasawa Y.](#) Related Articles, Links

 **[The expression pattern of the chick pleiotrophin and its possible role in early embryogenesis]**
Kokubyo Gakkai Zasshi. 2002 Sep;69(3):215-23. Japanese.
PMID: 12400177 [PubMed - indexed for MEDLINE]


 **42:** [Kaksonen M, Pavlov I, Voikar V, Lauri SE, Hienola A, Riekkari R, Lakso M, Taira T, Rauvala H.](#) Related Articles, Links

 **Syndecan-3-deficient mice exhibit enhanced LTP and impaired hippocampus-dependent memory.**
Mol Cell Neurosci. 2002 Sep;21(1):158-72.
PMID: 12359158 [PubMed - indexed for MEDLINE]

 **43:** [Deepa SS, Umehara Y, Higashiyama S, Itoh N, Sugahara K.](#) Related Articles, Links


 **Specific molecular interactions of oversulfated chondroitin sulfate E with various heparin-binding growth factors. Implications as a physiological binding partner in the brain and other tissues.**
J Biol Chem. 2002 Nov 15;277(46):43707-16. Epub 2002 Sep 06.
PMID: 12221095 [PubMed - indexed for MEDLINE]


 **44:** [Muramatsu T.](#) Related Articles, Links

 **Midkine and pleiotrophin: two related proteins involved in development, survival, inflammation and tumorigenesis.**
J Biochem (Tokyo). 2002 Sep;132(3):359-71. Review.
PMID: 12204104 [PubMed - indexed for MEDLINE]

- 45:** [D'Cruz CM, Moody SE, Master SR, Hartman JL, Keiper EA, Imielinski MB, Cox JD, Wang JY, Ha SI, Keister BA, Chodosh LA.](#) [Related Articles, Links](#)
Persistent parity-induced changes in growth factors, TGF-beta3, and differentiation in the rodent mammary gland.
 Mol Endocrinol. 2002 Sep;16(9):2034-51.
 PMID: 12198241 [PubMed - indexed for MEDLINE]
- 46:** [Piscione TD, Rosenblum ND.](#) [Related Articles, Links](#)
The molecular control of renal branching morphogenesis: current knowledge and emerging insights.
 Differentiation. 2002 Aug;70(6):227-46. Review.
 PMID: 12190985 [PubMed - indexed for MEDLINE]
- 47:** [Bastias J, Wei MX, Huynh R, Chaubet F, Jozefonvicz J, Crepin M.](#) [Related Articles, Links](#)
Anti-proliferative and antitumoral activities of a functionalized dextran (CMDBJ) on the 1205 L-U human tumor melanoma cells.
 Anticancer Res. 2002 May-Jun;22(3):1603-13.
 PMID: 12168844 [PubMed - indexed for MEDLINE]
- 48:** [Stoica GE, Kuo A, Powers C, Bowden ET, Sale EB, Riegel AT, Wellstein A.](#) [Related Articles, Links](#)
Midkine binds to anaplastic lymphoma kinase (ALK) and acts as a growth factor for different cell types.
 J Biol Chem. 2002 Sep 27;277(39):35990-8. Epub 2002 Jul 16.
 PMID: 12122009 [PubMed - indexed for MEDLINE]
- 49:** [Iseki K, Hagino S, Mori T, Zhang Y, Yokoya S, Takaki H, Tase C, Murakawa M, Wanaka A.](#) [Related Articles, Links](#)
Increased syndecan expression by pleiotrophin and FGF receptor-expressing astrocytes in injured brain tissue.
 Glia. 2002 Jul;39(1):1-9.
 PMID: 12112370 [PubMed - indexed for MEDLINE]
- 50:** [Bowden ET, Stoica GE, Wellstein A.](#) [Related Articles, Links](#)
Anti-apoptotic signaling of pleiotrophin through its receptor, anaplastic lymphoma kinase.
 J Biol Chem. 2002 Sep 27;277(39):35862-8. Epub 2002 Jul 09.
 PMID: 12107166 [PubMed - indexed for MEDLINE]
- 51:** [Pavlov I, Voikar V, Kaksonen M, Lauri SE, Hienola A, Taira T, Rauvala H.](#) [Related Articles, Links](#)
Role of heparin-binding growth-associated molecule (HB-GAM) in hippocampal LTP and spatial learning revealed by studies on overexpressing and knockout mice.
 Mol Cell Neurosci. 2002 Jun;20(2):330-42.
 PMID: 12093164 [PubMed - indexed for MEDLINE]
- 52:** [Bernard-Pierrot I, Delbe J, Rouet V, Vigny M, Kerros ME, Caruelle D, Raulais D, Barritault D, Courty J, Milhiet PE.](#) [Related Articles, Links](#)
Dominant negative effectors of heparin affinity regulatory peptide (HARP) angiogenic and transforming activities.
 J Biol Chem. 2002 Aug 30;277(35):32071-7. Epub 2002 Jun 17.
 PMID: 12070152 [PubMed - indexed for MEDLINE]
- 53:** [Asahina K, Sato H, Yamasaki C, Kataoka M, Shiohara M, Katayama S, Tateno C, Yoshizato K.](#) [Related Articles, Links](#)
Pleiotrophin/heparin-binding growth-associated molecule as a mitogen of rat hepatocytes and its role in regeneration and development of liver.


Am J Pathol. 2002 Jun;160(6):2191-205.
PMID: 12057922 [PubMed - indexed for MEDLINE]

-  **54:** [Sugino T, Kusakabe T, Hoshi N, Yamaguchi T, Kawaguchi T, Goodison S, Sekimata M, Homma Y, Suzuki T.](#) Related Articles, Links

 **An invasion-independent pathway of blood-borne metastasis: a new murine mammary tumor model.**


Am J Pathol. 2002 Jun;160(6):1973-80.
PMID: 12057902 [PubMed - indexed for MEDLINE]

-  **55:** [Qin LX, Tang ZY.](#) Related Articles, Links


 **The prognostic molecular markers in hepatocellular carcinoma.**


World J Gastroenterol. 2002 Jun;8(3):385-92. Review.
PMID: 12046056 [PubMed - indexed for MEDLINE]

-  **56:** [Sato Y, Takita H, Ohata N, Tamura M, Kuboki Y.](#) Related Articles, Links


 **Pleiotrophin regulates bone morphogenetic protein (BMP)-induced ectopic osteogenesis.**


J Biochem (Tokyo). 2002 Jun;131(6):877-86.
PMID: 12038985 [PubMed - indexed for MEDLINE]

-  **57:** [Kohashi T, Tateaki Y, Tateno C, Asahara T, Obara M, Yoshizato K.](#) Related Articles, Links


 **Expression of pleiotrophin in hepatic nonparenchymal cells and preneoplastic nodules in carbon tetrachloride-induced fibrotic rat liver.**


Growth Factors. 2002 Mar;20(1):53-60.
PMID: 11999218 [PubMed - indexed for MEDLINE]

-  **58:** [Jager R, List B, Knabbe C, Souttou B, Raulais D, Zeiler T, Wellstein A, Aigner A, Neubauer A, Zugmaier G.](#) Related Articles, Links


 **Serum levels of the angiogenic factor pleiotrophin in relation to disease stage in lung cancer patients.**


Br J Cancer. 2002 Mar 18;86(6):858-63.
PMID: 11953815 [PubMed - indexed for MEDLINE]

-  **59:** [Achour A, Laaroubi D, Caruelle D, Barritault D, Courty J.](#) Related Articles, Links


 **The angiogenic factor heparin affn regulatory peptide (HARP) induces proliferation of human peripheral blood mononuclear cells.**


Cell Mol Biol (Noisy-le-grand). 2001;47 Online Pub:OL73-7.
PMID: 11936877 [PubMed - indexed for MEDLINE]

-  **60:** [Chung HW, Wen Y, Choi EA, Hao-Li, Moon HS, Yu HK, Polan ML.](#) Related Articles, Links


 **Pleiotrophin (PTN) and midkine (MK) mRNA expression in eutopic and ectopic endometrium in advanced stage endometriosis.**


Mol Hum Reprod. 2002 Apr;8(4):350-5.
PMID: 11912283 [PubMed - indexed for MEDLINE]

-  **61:** [Klomp HJ, Zernial O, Flachmann S, Wellstein A, Juhl H.](#) Related Articles, Links

 **Significance of the expression of the growth factor pleiotrophin in pancreatic cancer patients.**



















Clin Cancer Res. 2002 Mar;8(3):823-7.
PMID: 11895915 [PubMed - indexed for MEDLINE]











-  **62:** [Magee TR, Qian A, Raifer J, Sander FC, Levine LA, Gonzalez-Cadavid NF.](#) Related Articles, Links

 **Gene expression profiles in the Peyronie's disease plaque.**



















Urology. 2002 Mar;59(3):451-7.
PMID: 11880101 [PubMed - indexed for MEDLINE]

- 63:** [Soulie P, Heroult M, Bernard I, Kerros ME, Milhiet PE, Delbe J, Barritault D, Caruelle D, Courty J](#) Related Articles, Links
Immunoassay for measuring the heparin-binding growth factors HARP and MK in biological fluids.
 J Immunoassay Immunochem. 2002;23(1):33-48.
 PMID: 11848100 [PubMed - indexed for MEDLINE]
- 64:** [Deuel TF, Zhang N, Yeh HJ, Silos-Santiago I, Wang ZY](#) Related Articles, Links
Pleiotrophin: a cytokine with diverse functions and a novel signaling pathway.
 Arch Biochem Biophys. 2002 Jan 15;397(2):162-71. Review.
 PMID: 11795867 [PubMed - indexed for MEDLINE]
- 65:** [Powers C, Aigner A, Stoica GE, McDonnell K, Wellstein A](#) Related Articles, Links
Pleiotrophin signaling through anaplastic lymphoma kinase is rate-limiting for glioblastoma growth.
 J Biol Chem. 2002 Apr 19;277(16):14153-8. Epub 2002 Jan 23.
 PMID: 11809760 [PubMed - indexed for MEDLINE]
- 66:** [Sakurai H, Bush KT, Nigam SK](#) Related Articles, Links
Identification of pleiotrophin as a mesenchymal factor involved in ureteric bud branching morphogenesis.
 Development. 2001 Sep;128(17):3283-93.
 PMID: 11546745 [PubMed - indexed for MEDLINE]
- 67:** [Haynes L, Rumsby M](#) Related Articles, Links
The pleiotropin/midkine family of cytokines: role in glial-neuronal signalling.
 Prog Brain Res. 2001;132:313-24. Review. No abstract available.
 PMID: 11545000 [PubMed - indexed for MEDLINE]
- 68:** [Sato H, Kuroda Y](#) Related Articles, Links
Differing effects of IFN beta vs IFN gamma in MS: gene expression in cultured astrocytes.
 Neurology. 2001 Aug 28;57(4):681-5.
 PMID: 11524479 [PubMed - indexed for MEDLINE]
- 69:** [Sanchez-Ramos JR, Song S, Kamath SG, Zigova T, Willing A, Cardozo-Pelaez F, Stedeford T, Chopp M, Sanberg PR](#) Related Articles, Links
Expression of neural markers in human umbilical cord blood.
 Exp Neurol. 2001 Sep;171(1):109-15.
 PMID: 11520125 [PubMed - indexed for MEDLINE]
- 70:** [Petersen W, Rafii M](#) Related Articles, Links
Immunolocalization of the angiogenic factor pleiotrophin (PTN) in the growth plate of mice.
 Arch Orthop Trauma Surg. 2001 Jul;121(7):414-6.
 PMID: 11510908 [PubMed - indexed for MEDLINE]
- 71:** [Amet LE, Lauri SE, Hienola A, Croll SD, Lu Y, Levorse JM, Prabhakaran B, Taira T, Rauvala H, Vogt TF](#) Related Articles, Links
Enhanced hippocampal long-term potentiation in mice lacking heparin-binding growth-associated molecule.
 Mol Cell Neurosci. 2001 Jun;17(6):1014-24.
 PMID: 11414790 [PubMed - indexed for MEDLINE]
- 72:** [Hendrickx S, Thomas P, Preston BN, Stanton PG, Van Damme MP](#) Related Articles, Links











-  **Partial characterization of matrix components interacting with cartilage proteoglycans.**
Arch Biochem Biophys. 2001 Jun 15;390(2):186-94.
PMID: 11396921 [PubMed - indexed for MEDLINE]
-  **73:** [Kawachi H, Fujikawa A, Maeda N, Noda M.](#) Related Articles, Links
-  **Identification of GIT1/Cat-1 as a substrate molecule of protein tyrosine phosphatase zeta /beta by the yeast substrate-trapping system.**
Proc Natl Acad Sci U S A. 2001 Jun 5;98(12):6593-8. Epub 2001 May 29.
PMID: 11381105 [PubMed - indexed for MEDLINE]
-  **74:** [Benko I, Kovacs P, Szegedi I, Megyeri A, Kiss A, Balogh E, Olah E, Kappelmayer J, Kiss C.](#) Related Articles, Links
-  **Effect of myelopoietic and pleiotropic cytokines on colony formation by blast cells of children with acute lymphoblastic leukemia.**
Naunyn Schmiedebergs Arch Pharmacol. 2001 May;363(5):499-508.
PMID: 11383710 [PubMed - indexed for MEDLINE]
-  **75:** [Chen J, Zhong Q, Wang J, Cameron RS, Borke JL, Isales CM, Bollag RJ.](#) Related Articles, Links
-  **Microarray analysis of Tbx2-directed gene expression: a possible role in osteogenesis.**
Mol Cell Endocrinol. 2001 May 25;177(1-2):43-54.
PMID: 11377819 [PubMed - indexed for MEDLINE]
-  **76:** [Qi M, Ikematsu S, Maeda N, Ichihara-Tanaka K, Sakuma S, Noda M, Muramatsu T, Kadomatsu K.](#) Related Articles, Links
-  **Haptotactic migration induced by midkine. Involvement of protein-tyrosine phosphatase zeta. Mitogen-activated protein kinase, and phosphatidylinositol 3-kinase.**
J Biol Chem. 2001 May 11;276(19):15868-75.
PMID: 11340082 [PubMed - indexed for MEDLINE]
-  **77:** [Stuart RO, Bush KT, Nigam SK.](#) Related Articles, Links
-  **Changes in global gene expression patterns during development and maturation of the rat kidney.**
Proc Natl Acad Sci U S A. 2001 May 8;98(10):5649-54. Epub 2001 May 01.
PMID: 11331749 [PubMed - indexed for MEDLINE]
-  **78:** [Kuroi K, Toi M.](#) Related Articles, Links
-  **Circulating angiogenesis regulators in cancer patients.**
Int J Biol Markers. 2001 Jan-Mar;16(1):5-26. Review.
PMID: 11288955 [PubMed - indexed for MEDLINE]
-  **79:** [Stoica GE, Kuo A, Aigner A, Sunitha I, Souttou B, Malerezyk C, Caughey DJ, Wen D, Karavanov A, Riegel AT, Wellstein A.](#) Related Articles, Links
-  **Identification of anaplastic lymphoma kinase as a receptor for the growth factor pleiotrophin.**
J Biol Chem. 2001 May 18;276(20):16772-9. Epub 2001 Feb 08.
PMID: 11278720 [PubMed - indexed for MEDLINE]
-  **80:** [Papadimitriou E, Polykratis A, Courty J, Koolwijk P, Heroult M, Katsoris P.](#) Related Articles, Links
-  **HARP induces angiogenesis in vivo and in vitro: implication of N or C terminal peptides.**
Biochem Biophys Res Commun. 2001 Mar 23;282(1):306-13.
PMID: 11264008 [PubMed - indexed for MEDLINE]
-  **81:** [Mashour GA, Ratner N, Khan GA, Wang HL, Martuza RL, Kurtz A.](#) Related Articles, Links

-  The angiogenic factor midkine is aberrantly expressed in NF1-deficient Schwann cells and is a mitogen for neurofibroma-derived cells.
Oncogene. 2001 Jan 4;20(1):97-105.
PMID: 11244508 [PubMed - indexed for MEDLINE]
- 82:** [Souttou B, Raulais D, Vigny M.](#) Related Articles, Links
-  Pleiotrophin induces angiogenesis: involvement of the phosphoinositide-3 kinase but not the nitric oxide synthase pathways.
J Cell Physiol. 2001 Apr;187(1):59-64.
PMID: 11241349 [PubMed - indexed for MEDLINE]
- 83:** [Xue L, Tassiopoulos AK, Woloson SK, Stanton DL Jr, Ms CS, Hampton B, Burgess WH, Greisler HP.](#) Related Articles, Links
-  Construction and biological characterization of an HB-GAM/FGF-1 chimera for vascular tissue engineering.
J Vasc Surg. 2001 Mar;33(3):554-60.
PMID: 11241127 [PubMed - indexed for MEDLINE]
- 84:** [Bany BM, Schultz GA.](#) Related Articles, Links
-  Pleiotrophin messenger ribonucleic acid levels increase in mouse endometrial stromal cells during decidualization.
Endocrinology. 2001 Feb;142(2):955-8.
PMID: 11159869 [PubMed - indexed for MEDLINE]
- 85:** [Bernard-Pierrot I, Delbe J, Caruelle D, Barritault D, Courty J, Milhiet PE.](#) Related Articles, Links
-  The lysine-rich C-terminal tail of heparin affin regulatory peptide is required for mitogenic and tumor formation activities.
J Biol Chem. 2001 Apr 13;276(15):12228-34. Epub 2001 Jan 09.
PMID: 11150308 [PubMed - indexed for MEDLINE]
- 86:** [Poulsen FR, Lagord C, Courty J, Pedersen EB, Barritault D, Finsen B.](#) Related Articles, Links
-  Increased synthesis of heparin affin regulatory peptide in the perforant path lesioned mouse hippocampal formation.
Exp Brain Res. 2000 Dec;135(3):319-30.
PMID: 11146810 [PubMed - indexed for MEDLINE]
- 87:** [Dewing P, Ching ST, Zhang YH, Huang BL, Peirce RM, McCabe ER, Vilain E.](#) Related Articles, Links
-  Midkine is expressed early in rat fetal adrenal development.
Mol Genet Metab. 2000 Dec;71(4):616-22.
PMID: 11136554 [PubMed - indexed for MEDLINE]
- 88:** [Azizan A, Gaw IU, Govindraj P, Tapp H, Neame PJ.](#) Related Articles, Links
-  Chondromodulin I and pleiotrophin gene expression in bovine cartilage and epiphysis.
Matrix Biol. 2000 Nov;19(6):521-31.
PMID: 11068206 [PubMed - indexed for MEDLINE]
- 89:** [Satyamoorthy K, Oka M, Herlyn M.](#) Related Articles, Links
-  An antisense strategy for inhibition of human melanoma growth targets the growth factor pleiotrophin.
Pigment Cell Res. 2000;13 Suppl 8:87-93.
PMID: 11041363 [PubMed - indexed for MEDLINE]
- 90:** [Weber D, Klomp HJ, Czubyko F, Wellstein A, Juhl H.](#) Related Articles, Links
-  Pleiotrophin can be rate-limiting for pancreatic cancer cell growth.
Cancer Res. 2000 Sep 15;60(18):5284-8.










PMID: 11016659 [PubMed - indexed for MEDLINE]










-  **91:** [Ikeda S, Ichihara-Tanaka K, Azuma T, Muramatsu T, Yamada M.](#) Related Articles, Links
 Effects of midkine during in vitro maturation of bovine oocytes on subsequent developmental competence.
 Biol Reprod. 2000 Oct;63(4):1067-74.
 PMID: 10993828 [PubMed - indexed for MEDLINE]
-  **92:** [Virkola R, Brummer M, Rauvala H, van Alphen L, Korhonen TK.](#) Related Articles, Links
 Interaction of fimbriae of Haemophilus influenzae type B with heparin-binding extracellular matrix proteins.
 Infect Immun. 2000 Oct;68(10):5696-701.
 PMID: 10992473 [PubMed - indexed for MEDLINE]
-  **93:** [Rauvala H, Huttunen HJ, Fages C, Kaksonen M, Kinnunen T, Imai S, Raulo E, Kilpelainen I.](#) Related Articles, Links
 Heparin-binding proteins HB-GAM (pleiotrophin) and amphoterin in the regulation of cell motility.
 Matrix Biol. 2000 Sep;19(5):377-87. Review.
 PMID: 10980414 [PubMed - indexed for MEDLINE]
-  **94:** [Schulte AM, Malerczyk C, Cabal-Manzano R, Gajarsa JJ, List HJ, Riegel AT, Wellstein A.](#) Related Articles, Links
 Influence of the human endogenous retrovirus-like element HERV-E.PTN on the expression of growth factor pleiotrophin: a critical role of a retroviral Sp1-binding site.
 Oncogene. 2000 Aug 17;19(35):3988-98.
 PMID: 10962555 [PubMed - indexed for MEDLINE]
-  **95:** [Papadimitriou E, Herault M, Courty J, Polykratis A, Stergiou C, Katsoris P.](#) Related Articles, Links
 Endothelial cell proliferation induced by HARP: implication of N or C terminal peptides.
 Biochem Biophys Res Commun. 2000 Jul 21;274(1):242-8.
 PMID: 10903925 [PubMed - indexed for MEDLINE]
-  **96:** [Kadomatsu K.](#) Related Articles, Links
 [Recent progress of midkine research on cancer]
 Nippon Rinsho. 2000 Jun;58(6):1337-47. Review. Japanese.
 PMID: 10879061 [PubMed - indexed for MEDLINE]
-  **97:** [Zou K, Muramatsu H, Ikematsu S, Sakuma S, Salama RH, Shinomura T, Kimata K, Muramatsu T.](#) Related Articles, Links
 A heparin-binding growth factor, midkine, binds to a chondroitin sulfate proteoglycan, PG-M/versican.
 Eur J Biochem. 2000 Jul;267(13):4046-53.
 PMID: 10866805 [PubMed - indexed for MEDLINE]
-  **98:** [Inui T, Nakao M, Nishio H, Nishiuchi Y, Kojima S, Muramatsu T, Kimura T.](#) Related Articles, Links
 Solution synthesis and biological activity of human pleiotrophin, a novel heparin-binding neurotrophic factor consisting of 136 amino acid residues with five disulfide bonds.
 J Pept Res. 2000 May;55(5):384-97.
 PMID: 10863935 [PubMed - indexed for MEDLINE]
-  **99:** [Fan QW, Muramatsu T, Kadomatsu K.](#) Related Articles, Links
 Distinct expression of midkine and pleiotrophin in the spinal cord and placental tissues during early mouse development.






Dev Growth Differ. 2000 Apr;42(2):113-9.
 PMID: 10830434 [PubMed - indexed for MEDLINE]



















-  **100:** [Cherrington JM, Strawn LM, Shawver LK.](#) Related Articles, Links
New paradigms for the treatment of cancer: the role of anti-angiogenesis agents.
 Adv Cancer Res. 2000;79:1-38. Review.
 PMID: 10818676 [PubMed - indexed for MEDLINE]
-  **101:** [Meng K, Rodriguez-Pena A, Dimitrov T, Chen W, Yamin M, Noda M, Deuel TF.](#) Related Articles, Links
Pleiotrophin signals increased tyrosine phosphorylation of beta catenin through inactivation of the intrinsic catalytic activity of the receptor-type protein tyrosine phosphatase beta/zeta.
 Proc Natl Acad Sci U S A. 2000 Mar 14;97(6):2603-8.
 PMID: 10706604 [PubMed - indexed for MEDLINE]
-  **102:** [Fages C, Nolo R, Huttunen HJ, Eskelinen E, Rauvala H.](#) Related Articles, Links
Regulation of cell migration by amphoterin.
 J Cell Sci. 2000 Feb;113 (Pt 4):611-20.
 PMID: 10652254 [PubMed - indexed for MEDLINE]
-  **103:** [Yoshioka N, Inoue H, Nakanishi K, Oka K, Yutsudo M, Yamashita A, Hakura A, Nojima H.](#) Related Articles, Links
Isolation of transformation suppressor genes by cDNA subtraction: lumican suppresses transformation induced by v-src and v-K-ras.
 J Virol. 2000 Jan;74(2):1008-13.
 PMID: 10623765 [PubMed - indexed for MEDLINE]
-  **104:** [Sakakibara S.](#) Related Articles, Links
Chemical synthesis of proteins in solution.
 Biopolymers. 1999;51(4):279-96. Review.
 PMID: 10618596 [PubMed - indexed for MEDLINE]
-  **105:** [Tapp H, Hernandez DJ, Neame PJ, Koob TJ.](#) Related Articles, Links
Pleiotrophin inhibits chondrocyte proliferation and stimulates proteoglycan synthesis in mature bovine cartilage.
 Matrix Biol. 1999 Dec;18(6):543-56.
 PMID: 10607916 [PubMed - indexed for MEDLINE]
-  **106:** [Bernard-Pierrot I, Heroult M, Lemaitre G, Barritault D, Courty J, Milhiet PE.](#) Related Articles, Links
Glycosaminoglycans promote HARP/PTN dimerization.
 Biochem Biophys Res Commun. 1999 Dec 20;266(2):437-42.
 PMID: 10600521 [PubMed - indexed for MEDLINE]
-  **107:** [Neame PJ, Tapp H, Azizan A.](#) Related Articles, Links
Noncollagenous, nonproteoglycan macromolecules of cartilage.
 Cell Mol Life Sci. 1999 Aug 15;55(10):1327-40. Review.
 PMID: 10487209 [PubMed - indexed for MEDLINE]
-  **108:** [Godden JL, Edward M, MacKie RM.](#) Related Articles, Links
Melanoma cell-derived factor stimulation of fibroblast glycosaminoglycan synthesis--the role of platelet-derived growth factor.
 Eur J Cancer. 1999 Mar;35(3):473-80.
 PMID: 10448302 [PubMed - indexed for MEDLINE]
-  **109:** [Permi P, Heikkinen S, Kilpelainen I, Annala A.](#) Related Articles, Links

Measurement of homonuclear (2)J-couplings from spin-state selective










-  **double-/zero-quantum two-dimensional NMR spectra.**
J Magn Reson. 1999 Aug;139(2):273-80.
PMID: 10423364 [PubMed - indexed for MEDLINE]
- 110:** Fath M, VanderNoot V, Kilpelainen I, Kinnunen T, Rauvala H, Linhardt RJ. [Related Articles](#), [Links](#)
-  **Interaction of soluble and surface-bound heparin binding growth-associated molecule with heparin.**
FEBS Lett. 1999 Jul 2;454(1-2):105-8.
PMID: 10413105 [PubMed - indexed for MEDLINE]
- 111:** Rumsby M, Suggitt F, Haynes L, Hughson E, Kidd D, McNulty S. [Related Articles](#), [Links](#)
-  **Substratum of pleiotrophin (HB-GAM) stimulates rat CG-4 line oligodendrocytes to adopt a bipolar morphology and disperse: primary O-2A progenitor glial cells disperse similarly on pleiotrophin.**
Glia. 1999 Jun;26(4):361-7.
PMID: 10383055 [PubMed - indexed for MEDLINE]
- 112:** Delbe J, Katsoris P, Milhiet PE, Barritault D, Caruelle D, Courty J. [Related Articles](#), [Links](#)
-  **[Implication of HARP in angiogenesis and possible therapeutic role]**
Pathol Biol (Paris). 1999 Apr;47(4):352-7. Review. French.
PMID: 10372404 [PubMed - indexed for MEDLINE]
- 113:** Zhang N, Yeh HJ, Zhong R, Li YS, Deuel TF. [Related Articles](#), [Links](#)
-  **A dominant-negative pleiotrophin mutant introduced by homologous recombination leads to germ-cell apoptosis in male mice.**
Proc Natl Acad Sci U S A. 1999 Jun 8;96(12):6734-8.
PMID: 10359781 [PubMed - indexed for MEDLINE]
- 114:** Zhang N, Zhong R, Deuel TF. [Related Articles](#), [Links](#)
-  **Domain structure of pleiotrophin required for transformation.**
J Biol Chem. 1999 May 7;274(19):12959-62.
PMID: 10224041 [PubMed - indexed for MEDLINE]
- 115:** Maeda N, Ichihara-Tanaka K, Kimura T, Kadomatsu K, Muramatsu T, Noda M. [Related Articles](#), [Links](#)
-  **A receptor-like protein-tyrosine phosphatase PTPzeta/RPTPbeta binds a heparin-binding growth factor midkine. Involvement of arginine 78 of midkine in the high affinity binding to PTPzeta.**
J Biol Chem. 1999 Apr 30;274(18):12474-9.
PMID: 10212223 [PubMed - indexed for MEDLINE]
- 116:** Yamakawa T, Kurosawa N, Kadomatsu K, Matsui T, Itoh K, Maeda N, Noda M, Muramatsu T. [Related Articles](#), [Links](#)
-  **Levels of expression of pleiotrophin and protein tyrosine phosphatase zeta are decreased in human colorectal cancers.**
Cancer Lett. 1999 Jan 8;135(1):91-6.
PMID: 10077226 [PubMed - indexed for MEDLINE]
- 117:** Vacherot F, Delbe J, Heroult M, Barritault D, Fernig DG, Courty J. [Related Articles](#), [Links](#)
-  **Glycosaminoglycans differentially bind HARP and modulate its biological activity.**
J Biol Chem. 1999 Mar 19;274(12):7741-7.
PMID: 10075664 [PubMed - indexed for MEDLINE]
- 118:** Kinnunen A, Niemi M, Kinnunen T, Kaksonen M, Nolo R, Rauvala H. [Related Articles](#), [Links](#)










-  **Heparan sulphate and HB-GAM (heparin-binding growth-associated molecule) in the development of the thalamocortical pathway of rat brain.**
Eur J Neurosci. 1999 Feb;11(2):491-502.
PMID: 10051750 [PubMed - indexed for MEDLINE]
- 119:** [Wakisaka S, Tabata MJ, Maeda T, Matsumoto K, Wanaka A, Muramatsu H, Muramatsu T, Kurisu K.](#) [Related Articles, Links](#)
-  **Immunohistochemical localization of pleiotrophin and midkine in the lingual epithelium of the adult rat.**
Arch Histol Cytol. 1998 Dec;61(5):475-80.
PMID: 9990431 [PubMed - indexed for MEDLINE]
- 120:** [Vacherot F, Caruelle D, Chopin D, Gil-Diez S, Barritault D, Caruelle JP, Courty J.](#) [Related Articles, Links](#)
-  **Involvement of heparin affin regulatory peptide in human prostate cancer.**
Prostate. 1999 Feb 1;38(2):126-36.
PMID: 9973098 [PubMed - indexed for MEDLINE]
- 121:** [Juhl H, Czubayko F, Henne-Bruns D.](#) [Related Articles, Links](#)
-  **[Ribozyme targeting as gene therapy method for treatment of malignant tumors]**
Langenbecks Arch Chir Suppl Kongressbd. 1998;115:1474-7. German.
PMID: 9931916 [PubMed - indexed for MEDLINE]
- 122:** [Zhang N, Deuel TF.](#) [Related Articles, Links](#)
-  **Pleiotrophin and midkine, a family of mitogenic and angiogenic heparin-binding growth and differentiation factors.**
Curr Opin Hematol. 1999 Jan;6(1):44-50. Review.
PMID: 9915553 [PubMed - indexed for MEDLINE]
- 123:** [Sato H, Funahashi M, Kristensen DB, Tateno C, Yoshizato K.](#) [Related Articles, Links](#)
-  **Pleiotrophin as a Swiss 3T3 cell-derived potent mitogen for adult rat hepatocytes.**
Exp Cell Res. 1999 Jan 10;246(1):152-64.
PMID: 9882525 [PubMed - indexed for MEDLINE]
- 124:** [Milhiet PE, Vacherot F, Caruelle JP, Barritault D, Caruelle D, Courty J.](#) [Related Articles, Links](#)
-  **Upregulation of the angiogenic factor heparin affin regulatory peptide by progesterone in rat uterus.**
J Endocrinol. 1998 Sep;158(3):389-99.
PMID: 9846168 [PubMed - indexed for MEDLINE]
- 125:** [Imai S, Kaksonen M, Raulo E, Kinnunen T, Fages C, Meng X, Lakso M, Rauvala H.](#) [Related Articles, Links](#)
-  **Osteoblast recruitment and bone formation enhanced by cell matrix-associated heparin-binding growth-associated molecule (HB-GAM).**
J Cell Biol. 1998 Nov 16;143(4):1113-28.
PMID: 9817766 [PubMed - indexed for MEDLINE]
- 126:** [Liu X, Mashour GA, Webster HF, Kurtz A.](#) [Related Articles, Links](#)
-  **Basic FGF and FGF receptor 1 are expressed in microglia during experimental autoimmune encephalomyelitis: temporally distinct expression of midkine and pleiotrophin.**
Glia. 1998 Dec;24(4):390-7.
PMID: 9814819 [PubMed - indexed for MEDLINE]
- 127:** [Nishiuchi Y, Inui T, Nishio H, Bodi J, Kimura T, Tsuji FI, Sakakibara S.](#) [Related Articles, Links](#)

-  **Chemical synthesis of the precursor molecule of the Aequorea green fluorescent protein, subsequent folding, and development of fluorescence.**
Proc Natl Acad Sci U S A. 1998 Nov 10;95(23):13549-54.
PMID: 9811837 [PubMed - indexed for MEDLINE]
- 128:** [Peng HB, Ali AA, Daggett DF, Rauvala H, Hassell JR, Smalheiser NR.](#) Related Articles, Links
The relationship between perlecan and dystroglycan and its implication in the formation of the neuromuscular junction.
Cell Adhes Commun. 1998 Sep;5(6):475-89.
PMID: 9791728 [PubMed - indexed for MEDLINE]
-  **129:** [Souffou B, Juhl H, Hackenbruck J, Rockseisen M, Klomp HJ, Raulais D, Vigny M, Wellstein A.](#) Related Articles, Links
Relationship between serum concentrations of the growth factor pleiotrophin and pleiotrophin-positive tumors.
J Natl Cancer Inst. 1998 Oct 7;90(19):1468-73.
PMID: 9776412 [PubMed - indexed for MEDLINE]
- 130:** [Lauri SE, Rauvala H, Kaila K, Taira T.](#) Related Articles, Links
Effect of heparin-binding growth-associated molecule (HB-GAM) on synaptic transmission and early LTP in rat hippocampal slices.
Eur J Neurosci. 1998 Jan;10(1):188-94.
PMID: 9753126 [PubMed - indexed for MEDLINE]
-  **131:** [Kinnunen A, Kinnunen T, Kaksonen M, Nolo R, Panula P, Rauvala H.](#) Related Articles, Links
N-syndecan and HB-GAM (heparin-binding growth-associated molecule) associate with early axonal tracts in the rat brain.
Eur J Neurosci. 1998 Feb;10(2):635-48.
PMID: 9749725 [PubMed - indexed for MEDLINE]
- 132:** [Fages C, Kaksonen M, Kinnunen T, Punnonen EL, Rauvala H.](#) Related Articles, Links
Regulation of mRNA localization by transmembrane signalling: local interaction of HB-GAM (heparin-binding growth-associated molecule) with the cell surface localizes beta-actin mRNA.
J Cell Sci. 1998 Oct;111 (Pt 20):3073-80.
PMID: 9739080 [PubMed - indexed for MEDLINE]
-  **133:** [Maeda N, Noda M.](#) Related Articles, Links
Involvement of receptor-like protein tyrosine phosphatase zeta/RPTPbeta and its ligand pleiotrophin/heparin-binding growth-associated molecule (HB-GAM) in neuronal migration.
J Cell Biol. 1998 Jul 13;142(1):203-16.
PMID: 9660874 [PubMed - indexed for MEDLINE]
- 134:** [Dreyfus J, Brunet-de Carvalho N, Duprez D, Raulais D, Vigny M.](#) Related Articles, Links
HB-GAM/pleiotrophin but not RIHB/midkine enhances chondrogenesis in micromass culture.
Exp Cell Res. 1998 May 25;241(1):171-80.
PMID: 9633525 [PubMed - indexed for MEDLINE]
-  **135:** [Schulte AM, Wellstein A.](#) Related Articles, Links
Structure and phylogenetic analysis of an endogenous retrovirus inserted into the human growth factor gene pleiotrophin.
J Virol. 1998 Jul;72(7):6065-72.
PMID: 9621070 [PubMed - indexed for MEDLINE]










-  **136:** [Yeh HJ, He YY, Xu J, Hsu CY, Deuel TF.](#) Related Articles, Links
 **Upregulation of pleiotrophin gene expression in developing microvasculature, macrophages, and astrocytes after acute ischemic brain injury.**
 J Neurosci. 1998 May 15;18(10):3699-707.
 PMID: 9570800 [PubMed - indexed for MEDLINE]
-  **137:** [Dreyfus J, Brunet-de Carvalho N, Duprez D, Raulais D, Vigny M.](#) Related Articles, Links
 **HB-GAM/pleiotrophin: localization of mRNA and protein in the chicken developing leg.**
 Int J Dev Biol. 1998 Mar;42(2):189-98.
 PMID: 9551864 [PubMed - indexed for MEDLINE]
-  **138:** [Milev P, Chiba A, Haring M, Rauvala H, Schachner M, Ranscht B, Margolis RK, Margolis RU.](#) Related Articles, Links
 **High affinity binding and overlapping localization of neurocan and phosphacan/protein-tyrosine phosphatase-zeta/beta with tenascin-R, amphoterin, and the heparin-binding growth-associated molecule.**
 J Biol Chem. 1998 Mar 20;273(12):6998-7005.
 PMID: 9507007 [PubMed - indexed for MEDLINE]
-  **139:** [Kurtz A, Spitzer E, Zschiesche W, Wellstein A, Grosse R.](#) Related Articles, Links
 **Local control of mammary gland differentiation: mammary-derived growth inhibitor and pleiotrophin.**
 Biochem Soc Symp. 1998;63:51-69. Review.
 PMID: 9513711 [PubMed - indexed for MEDLINE]
-  **140:** [Ratovitski EA, Kotzbauer PT, Milbrandt J, Lowenstein CJ, Burrow CR.](#) Related Articles, Links
 **Midkine induces tumor cell proliferation and binds to a high affinity signaling receptor associated with JAK tyrosine kinases.**
 J Biol Chem. 1998 Feb 6;273(6):3654-60.
 PMID: 9452495 [PubMed - indexed for MEDLINE]
-  **141:** [Czubayko F, Downing SG, Hsieh SS, Goldstein DJ, Lu PY, Trapnell BC, Wellstein A.](#) Related Articles, Links
 **Adenovirus-mediated transduction of ribozymes abrogates HER-2/neu and pleiotrophin expression and inhibits tumor cell proliferation.**
 Gene Ther. 1997 Sep;4(9):943-9.
 PMID: 9349431 [PubMed - indexed for MEDLINE]
-  **142:** [Iwasaki W, Nagata K, Hatanaka H, Inui T, Kimura T, Muramatsu T, Yoshida K, Tasumi M, Inagaki F.](#) Related Articles, Links
 **Solution structure of midkine, a new heparin-binding growth factor.**
 EMBO J. 1997 Dec 1;16(23):6936-46.
 PMID: 9384573 [PubMed - indexed for MEDLINE]
-  **143:** [Haltia A, Solin ML, Muramatsu T, Jalanko H, Holmberg C, Miettinen A, Holthofer H.](#) Related Articles, Links
 **Expression of nine developmental stage-specific genes in human kidney and cultured renal cells.**
 Exp Nephrol. 1997 Nov-Dec;5(6):457-64.
 PMID: 9438174 [PubMed - indexed for MEDLINE]
-  **144:** [Jager R, Noll K, Havemann K, Pfluger KH, Knabbe C, Rauvala H, Zugmaier G.](#) Related Articles, Links
 **Differential expression and biological activity of the heparin-binding growth-associated molecule (HB-GAM) in lung cancer cell lines.**
 Int J Cancer. 1997 Nov 14;73(4):537-43.

PMID: 9389569 [PubMed - indexed for MEDLINE]










-  **145:** [Sato M, Miyado K, Okazaki M, Kimura M.](#) Related Articles, Links
Regulation of osteoblast-specific factor-1 (OSF-1) mRNA expression by dual promoters as revealed by RT-PCR.
 Biochem Biophys Res Commun. 1997 Sep 29;238(3):831-7.
 PMID: 9325176 [PubMed - indexed for MEDLINE]
-  **146:** [Corbley MJ.](#) Related Articles, Links
Transformation by ras suppresses expression of the neurotrophic growth factor pleiotrophin.
 J Biol Chem. 1997 Sep 26;272(39):24696-702.
 PMID: 9305941 [PubMed - indexed for MEDLINE]
-  **147:** [Masuda H, Tsujimura A, Yoshioka M, Arai Y, Kuboki Y, Mukai T, Nakamura T, Tsuji H, Nakagawa M, Hashimoto-Gotoh T.](#) Related Articles, Links
Bone mass loss due to estrogen deficiency is compensated in transgenic mice overexpressing human osteoblast stimulating factor-1.
 Biochem Biophys Res Commun. 1997 Sep 18;238(2):528-33.
 PMID: 9299545 [PubMed - indexed for MEDLINE]
-  **148:** [Ledoux D, Cartuelle D, Sabourin JC, Liu J, Crepin M, Barritault D, Courty J.](#) Related Articles, Links
Cellular distribution of the angiogenic factor heparin affn regulatory peptide (HARP) mRNA and protein in the human mammary gland.
 J Histochem Cytochem. 1997 Sep;45(9):1239-45.
 PMID: 9283611 [PubMed - indexed for MEDLINE]
-  **149:** [Nakanishi T, Kadomatsu K, Okamoto T, Tomoda Y, Muramatsu T.](#) Related Articles, Links
Expression of midkine and pleiotropin in ovarian tumors.
 Obstet Gynecol. 1997 Aug;90(2):285-90.
 PMID: 9241309 [PubMed - indexed for MEDLINE]
-  **150:** [Souttou B, Ahmad S, Riegel AT, Wellstein A.](#) Related Articles, Links
Signal transduction pathways involved in the mitogenic activity of pleiotrophin. Implication of mitogen-activated protein kinase and phosphoinositide 3-kinase pathways.
 J Biol Chem. 1997 Aug 1;272(31):19588-93.
 PMID: 9235965 [PubMed - indexed for MEDLINE]
-  **151:** [Zhang N, Zhong R, Wang ZY, Deuel TF.](#) Related Articles, Links
Human breast cancer growth inhibited in vivo by a dominant negative pleiotrophin mutant.
 J Biol Chem. 1997 Jul 4;272(27):16733-6.
 PMID: 9201975 [PubMed - indexed for MEDLINE]
-  **152:** [Rauvala H, Peng HB.](#) Related Articles, Links
HB-GAM (heparin-binding growth-associated molecule) and heparin-type glycans in the development and plasticity of neuron-target contacts.
 Prog Neurobiol. 1997 Jun;52(2):127-44. Review.
 PMID: 9185236 [PubMed - indexed for MEDLINE]
-  **153:** [Ratovitski EA, Burrow CR.](#) Related Articles, Links
Midkine stimulates Wilms' tumor cell proliferation via its signaling receptor.
 Cell Mol Biol (Noisy-le-grand). 1997 May;43(3):425-31.
 PMID: 9193798 [PubMed - indexed for MEDLINE]










- 154:** [Choudhuri R, Zhang HT, Donnini S, Ziche M, Bicknell R.](#) [Related Articles, Links](#)
 **An angiogenic role for the neurokinins midkine and pleiotrophin in tumorigenesis.**
 Cancer Res. 1997 May 1;57(9):1814-9.
 PMID: 9135027 [PubMed - indexed for MEDLINE]
- 155:** [Relf M, LeJeune S, Scott PA, Fox S, Smith K, Leek R, Moghaddam A, Whitehouse R, Bicknell R, Harris AL.](#) [Related Articles, Links](#)
 **Expression of the angiogenic factors vascular endothelial cell growth factor, acidic and basic fibroblast growth factor, tumor growth factor beta-1, platelet-derived endothelial cell growth factor, placenta growth factor, and pleiotrophin in human primary breast cancer and its relation to angiogenesis.**
 Cancer Res. 1997 Mar 1;57(5):963-9.
 PMID: 9041202 [PubMed - indexed for MEDLINE]
- 156:** [Brodeur GM, Nakagawara A, Yamashiro DJ, Ikegaki N, Liu XG, Azar CG, Lee CP, Evans AE.](#) [Related Articles, Links](#)
 **Expression of TrkA, TrkB and TrkC in human neuroblastomas.**
 J Neurooncol. 1997 Jan;31(1-2):49-55.
 PMID: 9049830 [PubMed - indexed for MEDLINE]
- 157:** [Jonakait GM.](#) [Related Articles, Links](#)
 **Cytokines in neuronal development.**
 Adv Pharmacol. 1997;37:35-67. Review. No abstract available.
 PMID: 8891099 [PubMed - indexed for MEDLINE]
- 158:** [Schulte AM, Lai S, Kurtz A, Czubyko F, Riegel AT, Wellstein A.](#) [Related Articles, Links](#)
 **Human trophoblast and choriocarcinoma expression of the growth factor pleiotrophin attributable to germ-line insertion of an endogenous retrovirus.**
 Proc Natl Acad Sci U S A. 1996 Dec 10;93(25):14759-64.
 PMID: 8962128 [PubMed - indexed for MEDLINE]
- 159:** [Czubyko F, Schulte AM, Berchem GJ, Wellstein A.](#) [Related Articles, Links](#)
 **Melanoma angiogenesis and metastasis modulated by ribozyme targeting of the secreted growth factor pleiotrophin.**
 Proc Natl Acad Sci U S A. 1996 Dec 10;93(25):14753-8.
 PMID: 8962127 [PubMed - indexed for MEDLINE]
- 160:** [Hornum L, Markholst H.](#) [Related Articles, Links](#)
 **Mapping of the rat Ptn gene to chromosome 4.**
 Mamm Genome. 1996 Dec;7(12):923-4. No abstract available.
 PMID: 8995771 [PubMed - indexed for MEDLINE]
- 161:** [Chen Y, McKenzie KE, Aldaz CM, Sukumar S.](#) [Related Articles, Links](#)
 **Midkine in the progression of rat N-nitroso-N-methylurea-induced mammary tumors.**
 Mol Carcinog. 1996 Nov;17(3):112-6.
 PMID: 8944070 [PubMed - indexed for MEDLINE]
- 162:** [Silos-Santiago I, Yeh HJ, Gurrieri MA, Guillerman RP, Li YS, Wolf J, Snider W, Deuel TF.](#) [Related Articles, Links](#)
 **Localization of pleiotrophin and its mRNA in subpopulations of neurons and their corresponding axonal tracts suggests important roles in neural-glial interactions during development and in maturity.**
 J Neurobiol. 1996 Nov;31(3):283-96.

PMID: 8910787 [PubMed - indexed for MEDLINE]



















-  **163:** [Husmann I, Soulet L, Gautron J, Martelly I, Barritault D.](#) Related Articles, Links
Growth factors in skeletal muscle regeneration.
 Cytokine Growth Factor Rev. 1996 Oct;7(3):249-58. Review.
 PMID: 8971480 [PubMed - indexed for MEDLINE]
-  **164:** [Maeda N, Nishiwaki T, Shintani T, Hamanaka H, Noda M.](#) Related Articles, Links
6B4 proteoglycan/phosphacan, an extracellular variant of receptor-like protein-tyrosine phosphatase zeta/RPTPbeta, binds pleiotrophin/heparin-binding growth-associated molecule (HB-GAM).
 J Biol Chem. 1996 Aug 30;271(35):21446-52.
 PMID: 8702927 [PubMed - indexed for MEDLINE]
-  **165:** [Szabat E, Rauvala H.](#) Related Articles, Links
Role of HB-GAM (heparin-binding growth-associated molecule) in proliferation arrest in cells of the developing rat limb and its expression in the differentiating neuromuscular system.
 Dev Biol. 1996 Aug 25;178(1):77-89.
 PMID: 8812110 [PubMed - indexed for MEDLINE]
-  **166:** [Nolo R, Kaksonen M, Rauvala H.](#) Related Articles, Links
Developmentally regulated neurite outgrowth response from dorsal root ganglion neurons to heparin-binding growth-associated molecule (HB-GAM) and the expression of HB-GAM in the targets of the developing dorsal root ganglion neurites.
 Eur J Neurosci. 1996 Aug;8(8):1658-65.
 PMID: 8921256 [PubMed - indexed for MEDLINE]
-  **167:** [Lauri SE, Taira T, Kaila K, Rauvala H.](#) Related Articles, Links
Activity-induced enhancement of HB-GAM expression in rat hippocampal slices.
 Neuroreport. 1996 Jul 8;7(10):1670-4.
 PMID: 8904779 [PubMed - indexed for MEDLINE]
-  **168:** [Muramatsu H, Song XJ, Koide N, Hada H, Tsuji T, Kadomatsu K, Inui T, Kimura T, Sakakibara S, Muramatsu T.](#) Related Articles, Links
Enzyme-linked immunoassay for midkine, and its application to evaluation of midkine levels in developing mouse brain and sera from patients with hepatocellular carcinomas.
 J Biochem (Tokyo). 1996 Jun;119(6):1171-5.
 PMID: 8827454 [PubMed - indexed for MEDLINE]
-  **169:** [Wisniewski T, Lalowski M, Baumann M, Rauvala H, Raulo E, Nolo R, Frangione B.](#) Related Articles, Links
HB-GAM is a cytokine present in Alzheimer's and Down's syndrome lesions.
 Neuroreport. 1996 Jan 31;7(2):667-71.
 PMID: 8730853 [PubMed - indexed for MEDLINE]
-  **170:** [Kinnunen T, Raulo E, Nolo R, Maccarana M, Lindahl U, Rauvala H.](#) Related Articles, Links
Neurite outgrowth in brain neurons induced by heparin-binding growth-associated molecule (HB-GAM) depends on the specific interaction of HB-GAM with heparan sulfate at the cell surface.
 J Biol Chem. 1996 Jan 26;271(4):2243-8.
 PMID: 8567685 [PubMed - indexed for MEDLINE]
-  **171:** [Daggett DF, Cohen MW, Stone D, Nikolics K, Rauvala H, Peng](#) Related Articles, Links


















HB











-  **The role of an agrin-growth factor interaction in ACh receptor clustering.**
Mol Cell Neurosci. 1996;8(4):272-85.
PMID: 9026315 [PubMed - indexed for MEDLINE]
- 172:** Harris AL, Zhang H, Moghaddam A, Fox S, Scott P, Pattison A, Gatter K, Stratford I, Bicknell R. Related Articles, Links
-  **Breast cancer angiogenesis--new approaches to therapy via antiangiogenesis, hypoxic activated drugs, and vascular targeting.**
Breast Cancer Res Treat. 1996;38(1):97-108. Review.
PMID: 8825127 [PubMed - indexed for MEDLINE]
- 173:** Brigstock DR, Kim GY, Steffen CL. Related Articles, Links
-  **Pig uterine luminal fluid contains the developmentally regulated neurotrophic factor, pleiotrophin.**
J Endocrinol. 1996 Jan;148(1):103-11.
PMID: 8568456 [PubMed - indexed for MEDLINE]
- 174:** Wanaka A. Related Articles, Links
-  **Expression of heparin-binding growth factors and their receptors in neural development.**
Kaibogaku Zasshi. 1995 Dec;70(6):512-20. Review. No abstract available.
PMID: 8721807 [PubMed - indexed for MEDLINE]
- 175:** Kojima S, Inui T, Muramatsu H, Kimura T, Sakakibara S, Muramatsu T. Related Articles, Links
-  **Midkine is a heat and acid stable polypeptide capable of enhancing plasminogen activator activity and neurite outgrowth extension.**
Biochem Biophys Res Commun. 1995 Nov 13;216(2):574-81.
PMID: 7488150 [PubMed - indexed for MEDLINE]
- 176:** Vacherot F, Laaroubi K, Caruelle D, Delbe J, Barritault D, Caruelle JP, Courty J. Related Articles, Links
-  **Upregulation of heparin-affin regulatory peptide by androgen.**
In Vitro Cell Dev Biol Anim. 1995 Oct;31(9):647-8. No abstract available.
PMID: 8564072 [PubMed - indexed for MEDLINE]
- 177:** Wewetzer K, Rauvala H, Unsicker K. Related Articles, Links
-  **Immunocytochemical localization of the heparin-binding growth-associated molecule (HB-GAM) in the developing and adult rat cerebellar cortex.**
Brain Res. 1995 Sep 25;693(1-2):31-8.
PMID: 8653419 [PubMed - indexed for MEDLINE]
- 178:** Tsujimura A, Yasojima K, Kuboki Y, Suzuki A, Ueno N, Shiokawa K, Hashimoto-Gotoh T. Related Articles, Links
-  **Developmental and differential regulations in gene expression of Xenopus pleiotrophic factors-alpha and -beta.**
Biochem Biophys Res Commun. 1995 Sep 14;214(2):432-9.
PMID: 7677748 [PubMed - indexed for MEDLINE]
- 179:** Takeda A, Onodera H, Sugimoto A, Itoyama Y, Kogure K, Rauvala H, Shibahara S. Related Articles, Links
-  **Induction of heparin-binding growth-associated molecule expression in reactive astrocytes following hippocampal neuronal injury.**
Neuroscience. 1995 Sep;68(1):57-64.
PMID: 7477935 [PubMed - indexed for MEDLINE]
- 180:** Nakamura H, Kimura S, Kenmotsu S, Sakai H, Saku T, Ozawa H. Related Articles, Links




















-  Immunolocalization of CD44 and heparan sulfate chains on the stratum intermedium and papillary layer in the rat enamel organ.
Arch Histol Cytol. 1995 Aug;58(3):323-34.
PMID: 8527239 [PubMed - indexed for MEDLINE]
- 181:** [Sekiguchi K, Yokota C, Asashima M, Kaname T, Fan QW, Muramatsu T, Kadomatsu K.](#) Related Articles, Links
-  Restricted expression of Xenopus midkine gene during early development.
J Biochem (Tokyo). 1995 Jul;118(1):94-100.
PMID: 8537332 [PubMed - indexed for MEDLINE]
- 182:** [Obama H, Tsutsui J, Ozawa M, Yoshida H, Yoshida Y, Osame M, Muramatsu T.](#) Related Articles, Links
-  Midkine (MK) expression in extraembryonic tissues, amniotic fluid, and cerebrospinal fluid during mouse embryogenesis.
J Biochem (Tokyo). 1995 Jul;118(1):88-93.
PMID: 8537330 [PubMed - indexed for MEDLINE]
- 183:** [Delbe J, Vacherot F, Laaroubi K, Barritault D, Courty J.](#) Related Articles, Links
-  Effect of heparin on bovine epithelial lens cell proliferation induced by heparin affin regulatory peptide.
J Cell Physiol. 1995 Jul;164(1):47-54.
PMID: 7790396 [PubMed - indexed for MEDLINE]
- 184:** [Muramatsu T.](#) Related Articles, Links
-  [Midkine in relation to development and pathological status of the nervous system]
Nihon Shinkei Seishin Yakurigaku Zasshi. 1995 Jun;15(3):275-9. Review. Japanese.
PMID: 7584721 [PubMed - indexed for MEDLINE]
- 185:** [Nakagawara A, Milbrandt J, Muramatsu T, Deuel TF, Zhao H, Cnaan A, Brodeur GM.](#) Related Articles, Links
-  Differential expression of pleiotrophin and midkine in advanced neuroblastomas.
Cancer Res. 1995 Apr 15;55(8):1792-7.
PMID: 7712489 [PubMed - indexed for MEDLINE]
- 186:** [Peng HB, Ali AA, Dai Z, Daggett DF, Raulo E, Rauvala H.](#) Related Articles, Links
-  The role of heparin-binding growth-associated molecule (HB-GAM) in the postsynaptic induction in cultured muscle cells.
J Neurosci. 1995 Apr;15(4):3027-38.
PMID: 7722643 [PubMed - indexed for MEDLINE]
- 187:** [Lai S, Schulte AM, Wellstein A, Riegel AT.](#) Related Articles, Links
-  An additional 5'-upstream exon exists in the human pleiotrophin-encoding gene.
Gene. 1995 Feb 14;153(2):301-2.
PMID: 7875612 [PubMed - indexed for MEDLINE]
- 188:** [Kojima S, Inui T, Kinura T, Sakakibara S, Muramatsu H, Amanuma H, Maruta H, Muramatsu T.](#) Related Articles, Links
-  Synthetic peptides derived from midkine enhance plasminogen activator activity in bovine aortic endothelial cells.
Biochem Biophys Res Commun. 1995 Jan 17;206(2):468-73.
PMID: 7826363 [PubMed - indexed for MEDLINE]
- 189:** [Kurtz A, Schulte AM, Wellstein A.](#) Related Articles, Links

Pleiotrophin and midkine in normal development and tumor biology.

-  Crit Rev Oncog. 1995;6(2):151-77. Review.
PMID: 8792088 [PubMed - indexed for MEDLINE]
-  **190:** [Laaroubi K, Vacherot F, Delbe J, Caruelle D, Barritault D, Courty J.](#) Related Articles, Links
Courty J.
-  **Biochemical and mitogenic properties of the heparin-binding growth factor HARP.**
Prog Growth Factor Res. 1995;6(1):25-34. Review.
PMID: 8714367 [PubMed - indexed for MEDLINE]
-  **191:** [Czubayko F, Schulte AM, Missner SC, Hsieh SS, Colley KJ, Wellstein A.](#) Related Articles, Links
Wellstein A.
-  **Molecular and pharmacologic targeting of angiogenesis factors--the example of pleiotrophin.**
Breast Cancer Res Treat. 1995;36(2):157-68. Review.
PMID: 8534864 [PubMed - indexed for MEDLINE]
-  **192:** [Mitsiadis TA, Salmivirta M, Muramatsu T, Muramatsu H, Rauvala H, Lehtonen E, Jalkanen M, Thesieff I.](#) Related Articles, Links
Rauvala H, Lehtonen E, Jalkanen M, Thesieff I.
-  **Expression of the heparin-binding cytokines, midkine (MK) and HB-GAM (pleiotrophin) is associated with epithelial-mesenchymal interactions during fetal development and organogenesis.**
Development. 1995 Jan;121(1):37-51.
PMID: 7867507 [PubMed - indexed for MEDLINE]
-  **193:** [O'Hara B, Jenkins NA, Gilbert DJ, Copeland NG, Shows TB, Eddy RL, Bohlen P, Kovcsdi I.](#) Related Articles, Links
Eddy RL, Bohlen P, Kovcsdi I.
-  **Chromosomal assignment of the heparin-binding cytokine genes MDK and PTN in mouse and man.**
Cytogenet Cell Genet. 1995;69(1-2):40-3.
PMID: 7835084 [PubMed - indexed for MEDLINE]
-  **194:** [Zhang L, Rees MC, Bicknell R.](#) Related Articles, Links
-  **The isolation and long-term culture of normal human endometrial epithelium and stroma. Expression of mRNAs for angiogenic polypeptides basally and on oestrogen and progesterone challenges.**
J Cell Sci. 1995 Jan;108 (Pt 1):323-31.
PMID: 7537745 [PubMed - indexed for MEDLINE]
-  **195:** [Take M, Tsutsui J, Obama H, Ozawa M, Nakayama T, Maruyama I, Arima T, Muramatsu T.](#) Related Articles, Links
I, Arima T, Muramatsu T.
-  **Identification of nucleolin as a binding protein for midkine (MK) and heparin-binding growth associated molecule (HB-GAM).**
J Biochem (Tokyo). 1994 Nov;116(5):1063-8.
PMID: 7896734 [PubMed - indexed for MEDLINE]
-  **196:** [Ohyama Y, Miyamoto K, Minamino N, Matsuo H.](#) Related Articles, Links
-  **Isolation and identification of midkine and pleiotrophin in bovine follicular fluid.**
Mol Cell Endocrinol. 1994 Nov;105(2):203-8.
PMID: 7859927 [PubMed - indexed for MEDLINE]
-  **197:** [Matsumoto K, Wanaka A, Mori T, Taguchi A, Ishii N, Muramatsu H, Muramatsu T, Tohyama M.](#) Related Articles, Links
Muramatsu H, Muramatsu T, Tohyama M.
-  **Localization of pleiotrophin and midkine in the postnatal developing cerebellum.**
Neurosci Lett. 1994 Sep 12;178(2):216-20.
PMID: 7824199 [PubMed - indexed for MEDLINE]
-  **198:** [Fu C, Maminta-Smith LD, Guo C, Deuel TF.](#) Related Articles, Links

-  **Cloning and sequence of the *Xenopus laevis* homologue of the midkine cDNA.**
Gene. 1994 Sep 2;146(2):311-2.
PMID: 8076838 [PubMed - indexed for MEDLINE]
-  **199:** [Garver RI Jr, Radford DM, Donis-Keller H, Wick MR, Milner PG.](#) Related Articles, Links
-  **Midkine and pleiotrophin expression in normal and malignant breast tissue.**
Cancer. 1994 Sep 1;74(5):1584-90.
PMID: 7520350 [PubMed - indexed for MEDLINE]
-  **200:** [Czubayko F, Riegel AT, Wellstein A.](#) Related Articles, Links
-  **Ribozyme-targeting elucidates a direct role of pleiotrophin in tumor growth.**
J Biol Chem. 1994 Aug 19;269(33):21358-63.
PMID: 8063762 [PubMed - indexed for MEDLINE]
-  **201:** [Sapi E, Flick MB, Kacinski BM.](#) Related Articles, Links
-  **The first intron of human c-fms proto-oncogene contains a processed pseudogene (RPL7P) for ribosomal protein L7.**
Genomics. 1994 Aug;22(3):641-5.
PMID: 8001978 [PubMed - indexed for MEDLINE]
-  **202:** [Mailleux P, Preud'homme X, Albala N, Vanderwinden JM, Vanderhaeghen JJ.](#) Related Articles, Links
-  **delta-9-Tetrahydrocannabinol regulates gene expression of the growth factor pleiotrophin in the forebrain.**
Neurosci Lett. 1994 Jul 4;175(1-2):25-7.
PMID: 7970205 [PubMed - indexed for MEDLINE]
-  **203:** [Matsumoto K, Wanaka A, Takatsuji K, Muramatsu H, Muramatsu T, Tohyama M.](#) Related Articles, Links
-  **A novel family of heparin-binding growth factors, pleiotrophin and midkine, is expressed in the developing rat cerebral cortex.**
Brain Res Dev Brain Res. 1994 Jun 17;79(2):229-41.
PMID: 7955321 [PubMed - indexed for MEDLINE]
-  **204:** [Rauvala H, Vanhala A, Castren E, Nolo R, Rauilo E, Merenmies J, Panula P.](#) Related Articles, Links
-  **Expression of HB-GAM (heparin-binding growth-associated molecules) in the pathways of developing axonal processes in vivo and neurite outgrowth in vitro induced by HB-GAM.**
Brain Res Dev Brain Res. 1994 Jun 17;79(2):157-76.
PMID: 7955315 [PubMed - indexed for MEDLINE]
-  **205:** [Rauilo E, Chernousov MA, Carey DJ, Nolo R, Rauvala H.](#) Related Articles, Links
-  **Isolation of a neuronal cell surface receptor of heparin binding growth-associated molecule (HB-GAM). Identification as N-syndecan (syndecan-3).**
J Biol Chem. 1994 Apr 29;269(17):12999-3004.
PMID: 8175719 [PubMed - indexed for MEDLINE]
-  **206:** [Obama H, Matsubara S, Guenet JL, Muramatsu T.](#) Related Articles, Links
-  **The midkine (MK) family of growth/differentiation factors: structure of an MK-related sequence in a pseudogene and evolutionary relationships among members of the MK family.**
J Biochem (Tokyo). 1994 Mar;115(3):516-22.
PMID: 8056766 [PubMed - indexed for MEDLINE]


-  **207:** [Seddon AP, Hulmes JD, Decker MM, Kovessi I, Fairhurst JL, Backer J, Dougher-Vermazen M, Bohlen P.](#) [Related Articles, Links](#)
Refolding and characterization of human recombinant heparin-binding neurite-promoting factor.
 Protein Expr Purif. 1994 Feb;5(1):14-21.
 PMID: 8167469 [PubMed - indexed for MEDLINE]
-  **208:** [Riegel AT, Wellstein A.](#) [Related Articles, Links](#)
The potential role of the heparin-binding growth factor pleiotrophin in breast cancer.
 Breast Cancer Res Treat. 1994;31(2-3):309-14. Review.
 PMID: 7533562 [PubMed - indexed for MEDLINE]
-  **209:** [Wellstein A.](#) [Related Articles, Links](#)
Growth factor targeted and conventional therapy of breast cancer.
 Breast Cancer Res Treat. 1994;31(2-3):141-51. Review.
 PMID: 7533560 [PubMed - indexed for MEDLINE]
-  **210:** [Laaroubi K, Delbe J, Vacherot F, Desgranges P, Tardieu M, Jaye M, Barritault D, Courty J.](#) [Related Articles, Links](#)
Mitogenic and in vitro angiogenic activity of human recombinant heparin affin regulatory peptide.
 Growth Factors. 1994;10(2):89-98.
 PMID: 7520717 [PubMed - indexed for MEDLINE]
-  **211:** [Novotny WF, Maffi T, Mehta RL, Milner PG.](#) [Related Articles, Links](#)
Identification of novel heparin-releasable proteins, as well as the cytokines midkine and pleiotrophin, in human postheparin plasma.
 Arterioscler Thromb. 1993 Dec;13(12):1798-805.
 PMID: 8241100 [PubMed - indexed for MEDLINE]
-  **212:** [Gieffers C, Engelhardt W, Brenzel G, Matsuishi T, Frey J.](#) [Related Articles, Links](#)
Receptor binding of osteoblast-specific factor 1 (OSF-1/HB-GAM) to human osteosarcoma cells promotes cell attachment.
 Eur J Cell Biol. 1993 Dec;62(2):352-61.
 PMID: 7925491 [PubMed - indexed for MEDLINE]
-  **213:** [Peichel CL, Scherer SW, Tsui LC, Beier DR, Vogt TF.](#) [Related Articles, Links](#)
Mapping the midkine family of developmentally regulated signaling molecules.
 Mamm Genome. 1993 Nov;4(11):632-8.
 PMID: 8281012 [PubMed - indexed for MEDLINE]
-  **214:** [Garver RI Jr, Chan CS, Milner PG.](#) [Related Articles, Links](#)
Reciprocal expression of pleiotrophin and midkine in normal versus malignant lung tissues.
 Am J Respir Cell Mol Biol. 1993 Nov;9(5):463-6.
 PMID: 8217186 [PubMed - indexed for MEDLINE]
-  **215:** [Wewetzer K, Janet T, Heymann D, Unsicker K.](#) [Related Articles, Links](#)
Cell blotting and isoelectric focusing of neuroblastoma-derived heparin-binding neurotrophic activities: detection of basic fibroblast growth factor protein and mRNA.
 J Neurosci Res. 1993 Oct 1;36(2):209-15.
 PMID: 8263972 [PubMed - indexed for MEDLINE]
-  **216:** [Li YS, Deuel TF.](#) [Related Articles, Links](#)
Pleiotrophin stimulates tyrosine phosphorylation in NIH 3T3 and

-  **NB41A3 cells.**
Biochem Biophys Res Commun. 1993 Sep 15;195(2):1089-95.
PMID: 7690551 [PubMed - indexed for MEDLINE]
-  **217:** [Fabri L, Maruta H, Muramatsu H, Muramatsu T, Simpson RJ, Burgess AW, Nice EC.](#) Related Articles, Links
-  **Structural characterisation of native and recombinant forms of the neurotrophic cytokine MK.**
J Chromatogr. 1993 Aug 27;646(1):213-25.
PMID: 8408430 [PubMed - indexed for MEDLINE]
-  **218:** [Neame PJ, Young CN, Brock CW, Treep JT, Ganey TM, Sasse J, Rosenberg LC.](#) Related Articles, Links
-  **Pleiotrophin is an abundant protein in dissociative extracts of bovine fetal epiphyseal cartilage and nasal cartilage from newborns.**
J Orthop Res. 1993 Jul;11(4):479-91.
PMID: 8340821 [PubMed - indexed for MEDLINE]
-  **219:** [Hulmes JD, Seddon AP, Decker MM, Bohlen P.](#) Related Articles, Links
-  **Comparison of the disulfide bond arrangements of human recombinant and bovine brain heparin binding neurite-promoting factors.**
Biochem Biophys Res Commun. 1993 Apr 30;192(2):738-46.
PMID: 8484780 [PubMed - indexed for MEDLINE]
-  **220:** [Kretschmer PJ, Fairhurst JL, Hulmes JD, Popjes ML, Bohlen P, Kovcsdi I.](#) Related Articles, Links
-  **Genomic organization of the human HBNF gene and characterization of an HBNF variant protein as a splice mutant.**
Biochem Biophys Res Commun. 1993 Apr 30;192(2):420-9.
PMID: 8484754 [PubMed - indexed for MEDLINE]
-  **221:** [Wanaka A, Carroll SL, Milbrandt J.](#) Related Articles, Links
-  **Developmentally regulated expression of pleiotrophin, a novel heparin binding growth factor, in the nervous system of the rat.**
Brain Res Dev Brain Res. 1993 Mar 19;72(1):133-44.
PMID: 8453763 [PubMed - indexed for MEDLINE]
-  **222:** [Tsutsui J, Kadomatsu K, Matsubara S, Nakagawara A, Hamanoue M, Takao S, Shimazu H, Ohi Y, Muramatsu T.](#) Related Articles, Links
-  **A new family of heparin-binding growth/differentiation factors: increased midkine expression in Wilms' tumor and other human carcinomas.**
Cancer Res. 1993 Mar 15;53(6):1281-5.
PMID: 8383007 [PubMed - indexed for MEDLINE]
-  **223:** [Muramatsu T.](#) Related Articles, Links
-  **Midkine (MK), the product of a retinoic acid responsive gene, and pleiotrophin constitute a new protein family regulating growth and differentiation.**
Int J Dev Biol. 1993 Mar;37(1):183-8. Review.
PMID: 8507561 [PubMed - indexed for MEDLINE]
-  **224:** [Chauhan AK, Li YS, Deuel TF.](#) Related Articles, Links
-  **Pleiotrophin transforms NIH 3T3 cells and induces tumors in nude mice.**
Proc Natl Acad Sci U S A. 1993 Jan 15;90(2):679-82.
PMID: 8421705 [PubMed - indexed for MEDLINE]
-  **225:** [Li YS, Hoffman RM, Le Beau MM, Espinosa R 3rd, Jenkins NA, Gilbert DJ, Copeland NG, Deuel TF.](#) Related Articles, Links
-  **Characterization of the human pleiotrophin gene. Promoter region and**

chromosomal localization.

J Biol Chem. 1992 Dec 25;267(36):26011-6.

PMID: 1464612 [PubMed - indexed for MEDLINE]

-  **226:** [Fang W, Hartmann N, Chow DT, Riegel AT, Wellstein A.](#) Related Articles, Links



Pleiotrophin stimulates fibroblasts and endothelial and epithelial cells and is expressed in human cancer.

J Biol Chem. 1992 Dec 25;267(36):25889-97.

PMID: 1464602 [PubMed - indexed for MEDLINE]


-  **227:** [Bloch B, Normand E, Kovessi I, Bohlen P.](#) Related Articles, Links



Expression of the HBNF (heparin-binding neurite-promoting factor) gene in the brain of fetal, neonatal and adult rat: an in situ hybridization study.

Brain Res Dev Brain Res. 1992 Dec 18;70(2):267-78.

PMID: 1477961 [PubMed - indexed for MEDLINE]

-  **228:** [Ostrand M, Fingar H, Seddon A, Bohlen P, Backer J.](#) Related Articles, Links



Anti-viral activity of human recombinant heparin-binding proteins HBNF and MK.

Biochem Biophys Res Commun. 1992 Dec 15;189(2):1189-95.

PMID: 1335242 [PubMed - indexed for MEDLINE]

-  **229:** [Milner PG, Shah D, Veile R, Donis-Keller H, Kumar BV.](#) Related Articles, Links



Cloning, nucleotide sequence, and chromosome localization of the human pleiotrophin gene.

Biochemistry. 1992 Dec 8;31(48):12023-8.

PMID: 1457401 [PubMed - indexed for MEDLINE]


-  **230:** [Katoh K, Takeshita S, Sato M, Ito T, Amann E.](#) Related Articles, Links



Genomic organization of the mouse OSF-1 gene.

DNA Cell Biol. 1992 Dec;11(10):735-43.

PMID: 1457042 [PubMed - indexed for MEDLINE]


-  **231:** [Nurcombe V, Fraser N, Herjaar E, Heath JK.](#) Related Articles, Links



MK: a pluripotential embryonic stem-cell-derived neuroregulatory factor.

Development. 1992 Dec;116(4):1175-83.

PMID: 1295735 [PubMed - indexed for MEDLINE]


-  **232:** [Fabri L, Nice EC, Ward LD, Maruta H, Burgess AW, Simpson RJ.](#) Related Articles, Links



Characterization of bovine heparin-binding neurotrophic factor (HBNF): assignment of disulfide bonds.

Biochem Int. 1992 Oct;28(1):1-9.

PMID: 1445382 [PubMed - indexed for MEDLINE]


-  **233:** [Lai S, Czubayko F, Riegel AT, Wellstein A.](#) Related Articles, Links



Structure of the human heparin-binding growth factor gene pleiotrophin.

Biochem Biophys Res Commun. 1992 Sep 16;187(2):1113-22.

PMID: 1530608 [PubMed - indexed for MEDLINE]


-  **234:** [Vanderwinden JM, Mailleux P, Schiffmann SN, Vanderhaeghen JJ.](#) Related Articles, Links































Cellular distribution of the new growth factor pleiotrophin (HB-GAM) mRNA in developing and adult rat tissues.

Anat Embryol (Berl). 1992 Sep;186(4):387-406.

PMID: 1416088 [PubMed - indexed for MEDLINE]

-  **235:** [Nakamoto M, Matsubara S, Miyauchi T, Obama H, Ozawa M, Muramatsu T.](#) Related Articles, Links

-  **A new family of heparin binding growth/differentiation factors: differential expression of the midkine (MK) and HB-GAM genes during mouse development.**
J Biochem (Tokyo). 1992 Sep;112(3):346-9.
PMID: 1343086 [PubMed - indexed for MEDLINE]
- 236:** [Mailleux P, Vanderwinden JM, Vanderhaeghen JJ.](#) Related Articles, Links
-  **The new growth factor pleiotrophin (HB-GAM) mRNA is selectively present in the meningotheelial cells of human meningiomas.**
Neurosci Lett. 1992 Aug 3;142(1):31-5.
PMID: 1407714 [PubMed - indexed for MEDLINE]
- 237:** [Merenmies J.](#) Related Articles, Links
-  **Cell density-dependent expression of heparin-binding growth-associated molecule (HB-GAM, p18) and its down-regulation by fibroblast growth factors.**
FEBS Lett. 1992 Aug 3;307(3):297-300.
PMID: 1379543 [PubMed - indexed for MEDLINE]
- 238:** [Raulo E, Julkunen I, Merenmies J, Pihlaskari R, Rauvala H.](#) Related Articles, Links
-  **Secretion and biological activities of heparin-binding growth-associated molecule. Neurite outgrowth-promoting and mitogenic actions of the recombinant and tissue-derived protein.**
J Biol Chem. 1992 Jun 5;267(16):11408-16.
PMID: 1597470 [PubMed - indexed for MEDLINE]
- 239:** [Takamatsu H, Itoh M, Kimura M, Gospodarowicz D, Amann E.](#) Related Articles, Links
-  **Expression and purification of biologically active human OSF-1 in Escherichia coli.**
Biochem Biophys Res Commun. 1992 May 29;185(1):224-30. Erratum in: Biochem Biophys Res Commun 1992 Aug 31;187(1):561.
PMID: 1599459 [PubMed - indexed for MEDLINE]
- 240:** [Li YS, Gurrieri M, Deuel TF.](#) Related Articles, Links
-  **Pleiotrophin gene expression is highly restricted and is regulated by platelet-derived growth factor.**
Biochem Biophys Res Commun. 1992 Apr 15;184(1):427-32.
PMID: 1373617 [PubMed - indexed for MEDLINE]
- 241:** [Naito A, Yoshikura H, Iwamoto A.](#) Related Articles, Links
-  **Similarity of the genomic structure between the two members in a new family of heparin-binding factors.**
Biochem Biophys Res Commun. 1992 Mar 16;183(2):701-7.
PMID: 1550576 [PubMed - indexed for MEDLINE]
- 242:** [Wellstein A, Fang WJ, Khatri A, Lu Y, Swain SS, Dickson RB, Sasse J, Riegel AT, Lippman ME.](#) Related Articles, Links
-  **A heparin-binding growth factor secreted from breast cancer cells homologous to a developmentally regulated cytokine.**
J Biol Chem. 1992 Feb 5;267(4):2582-7.
PMID: 1733956 [PubMed - indexed for MEDLINE]
- 243:** [Kuo MD, Huang SS, Huang JS.](#) Related Articles, Links
-  **Characterization of heparin-binding growth-associated factor receptor on NIH 3T3 cells.**
Biochem Biophys Res Commun. 1992 Jan 15;182(1):188-94.
PMID: 1731778 [PubMed - indexed for MEDLINE]

-  **244:** [Hampton BS, Marshak DR, Burgess WH.](#) Related Articles, Links
 **Structural and functional characterization of full-length heparin-binding growth associated molecule.**
 Mol Biol Cell. 1992 Jan;3(1):85-93.
 PMID: 1550956 [PubMed - indexed for MEDLINE]
-  **245:** [Courtly J, Dauchel MC, Caruelle D, Perderiset M, Barritault D.](#) Related Articles, Links
 **Mitogenic properties of a new endothelial cell growth factor related to pleiotrophin.**
 Biochem Biophys Res Commun. 1991 Oct 15;180(1):145-51.
 PMID: 1819274 [PubMed - indexed for MEDLINE]
-  **246:** [Tsutsui J, Uehara K, Kadomatsu K, Matsubara S, Muramatsu T.](#) Related Articles, Links
 **A new family of heparin-binding factors: strong conservation of midkine (MK) sequences between the human and the mouse.**
 Biochem Biophys Res Commun. 1991 Apr 30;176(2):792-7.
 PMID: 2025291 [PubMed - indexed for MEDLINE]
-  **247:** [Bohlen P, Muller T, Gautschi-Sova P, Albrecht U, Rasool CG, Decker M, Seddon A, Fafeur V, Kovessi I, Kretschmer P.](#) Related Articles, Links
 **Isolation from bovine brain and structural characterization of HBNF, a heparin-binding neurotrophic factor.**
 Growth Factors. 1991;4(2):97-107.
 PMID: 2049182 [PubMed - indexed for MEDLINE]
-  **248:** [Bohlen P, Kovessi I.](#) Related Articles, Links
 **HBNF and MK, members of a novel gene family of heparin-binding proteins with potential roles in embryogenesis and brain function.**
 Prog Growth Factor Res. 1991;3(2):143-57. Review.
 PMID: 1773041 [PubMed - indexed for MEDLINE]
-  **249:** [Kretschmer PJ, Fairhurst JL, Decker MM, Chan CP, Gluzman Y, Bohlen P, Kovessi I.](#) Related Articles, Links
 **Cloning, characterization and developmental regulation of two members of a novel human gene family of neurite outgrowth-promoting proteins.**
 Growth Factors. 1991;5(2):99-114.
 PMID: 1768439 [PubMed - indexed for MEDLINE]
-  **250:** [Li YS, Milner PG, Chauhan AK, Watson MA, Hoffman RM, Kodner CM, Milbrandt J, Deuel TF.](#) Related Articles, Links
 **Cloning and expression of a developmentally regulated protein that induces mitogenic and neurite outgrowth activity.**
 Science. 1990 Dec 21;250(4988):1690-4.
 PMID: 2270483 [PubMed - indexed for MEDLINE]
-  **251:** [Tezuka K, Takeshita S, Hakeda Y, Kumegawa M, Kikuno R, Hashimoto-Gotoh T.](#) Related Articles, Links
 **Isolation of mouse and human cDNA clones encoding a protein expressed specifically in osteoblasts and brain tissues.**
 Biochem Biophys Res Commun. 1990 Nov 30;173(1):246-51.
 PMID: 1701634 [PubMed - indexed for MEDLINE]
-  **252:** [Kovessi I, Fairhurst JL, Kretschmer PJ, Bohlen P.](#) Related Articles, Links
 **Heparin-binding neurotrophic factor (HBNF) and MK, members of a new family of homologous, developmentally regulated proteins.**
 Biochem Biophys Res Commun. 1990 Oct 30;172(2):850-4.
 PMID: 1700712 [PubMed - indexed for MEDLINE]
-  **253:** [Merenmies J, Rauvala H.](#) Related Articles, Links



Molecular cloning of the 18-kDa growth-associated protein of developing brain.

J Biol Chem. 1990 Oct 5;265(28):16721-4.

PMID: 2170351 [PubMed - indexed for MEDLINE]

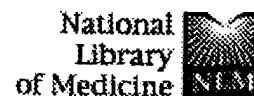
Display	Summary	Show:	500	Sort	Send to	Text
---------	---------	-------	-----	------	---------	------

Items 1-253 of 253

One page.

[Write to the Help Desk](#)
[NCBI](#) | [NLM](#) | [NIH](#)
 Department of Health & Human Services
[Freedom of Information Act](#) | [Disclaimer](#)

Apr 13 2004 06:53:46



Entrez PubMed Nucleotide Protein Genome Structure OMIM PMC Journals Book

Search PubMed for pleiotrophin AND receptor

Limits Preview/Index History Clipboard Details

About Entrez

Display Summary Show: 500 Sort Send to Text

Text Version

Items 1-63 of 63

One page.

Entrez PubMed

Overview
Help | FAQ
Tutorial
New/Noteworthy
E-Utilities

PubMed Services



















Journals Database
MeSH Database
Single Citation Matcher
Batch Citation Matcher
Clinical Queries
LinkOut
Cubby



















Related Resources

Order Documents
NLM Gateway
TOXNET
Consumer Health
Clinical Alerts
ClinicalTrials.gov
PubMed Central











Privacy Policy

- 1: [Kadomatsu K, Muramatsu T.](#) [Related Articles, Links](#)
- 2: [Midkine and pleiotrophin in neural development and cancer.](#)
Cancer Lett. 2004 Feb 20;204(2):127-43.
PMID: 15013213 [PubMed - in process]
- 2: [Heroult M, Bernard-Pierrot I, Delbe J, Hamma-Kourbali Y, Katsoris P, Barritault D, Papadimitriou E, Plouet J, Courty J.](#) [Related Articles, Links](#)
- 3: [Heparin affin regulatory peptide binds to vascular endothelial growth factor \(VEGF\) and inhibits VEGF-induced angiogenesis.](#)
Oncogene. 2004 Mar 4;23(9):1745-53.
PMID: 15001987 [PubMed - indexed for MEDLINE]
- 3: [Ulbricht U, Brockmann MA, Aigner A, Eckerich C, Muller S, Fillbrandt R, Westphal M, Lamszus K.](#) [Related Articles, Links](#)
- 4: [Expression and function of the receptor protein tyrosine phosphatase zeta and its ligand pleiotrophin in human astrocytomas.](#)
J Neuropathol Exp Neurol. 2003 Dec;62(12):1265-75.
PMID: 14692702 [PubMed - indexed for MEDLINE]
- 4: [Muller S, Kunkel P, Lamszus K, Ulbricht U, Lorente GA, Nelson AM, von Schack D, Chin DJ, Lohr SC, Westphal M, Melcher T.](#) [Related Articles, Links](#)
- 5: [A role for receptor tyrosine phosphatase zeta in glioma cell migration.](#)
Oncogene. 2003 Oct 2;22(43):6661-8.
PMID: 14555979 [PubMed - indexed for MEDLINE]
- 5: [Maeda N, He J, Yajima Y, Mikami T, Sugahara K, Yabe T.](#) [Related Articles, Links](#)
- 6: [Heterogeneity of the chondroitin sulfate portion of phosphacan/6B4 proteoglycan regulates its binding affinity for pleiotrophin/heparin binding growth-associated molecule.](#)
J Biol Chem. 2003 Sep 12;278(37):35805-11. Epub 2003 Jul 02.
PMID: 12840014 [PubMed - indexed for MEDLINE]
- 6: [Brockmann MA, Ulbricht U, Gruner K, Fillbrandt R, Westphal M, Lamszus K.](#) [Related Articles, Links](#)
- 7: [Glioblastoma and cerebral microvascular endothelial cell migration in response to tumor-associated growth factors.](#)
Neurosurgery. 2003 Jun;52(6):1391-9; discussion 1399.
PMID: 12762884 [PubMed - indexed for MEDLINE]
- 7: [Tanaka M, Maeda N, Noda M, Marunouchi T.](#) [Related Articles, Links](#)
- 8: [A chondroitin sulfate proteoglycan PTPzeta /RPTPbeta regulates the morphogenesis of Purkinje cell dendrites in the developing cerebellum.](#)
J Neurosci. 2003 Apr 1;23(7):2804-14.
PMID: 12684467 [PubMed - indexed for MEDLINE]
- 8: [Fujikawa A, Shirasaka D, Yamamoto S, Ota H, Yahiro K, Fukada M, Shintani T, Wada A, Aoyama N, Hirayama T, Fukamachi H, Noda M.](#) [Related Articles, Links](#)


-  **Mice deficient in protein tyrosine phosphatase receptor type Z are resistant to gastric ulcer induction by VacA of Helicobacter pylori.**
Nat Genet. 2003 Mar;33(3):375-81. Epub 2003 Feb 24. Erratum in: Nat Genet. 2003 Apr;33(4):533.
PMID: 12598897 [PubMed - indexed for MEDLINE]
-  **9:** [Beltran PJ, Bixby JL.](#) Related Articles, Links
-  **Receptor protein tyrosine phosphatases as mediators of cellular adhesion.**
Front Biosci. 2003 Jan 1;8:d87-99. Review.
PMID: 12456340 [PubMed - indexed for MEDLINE]
-  **10:** [Tare RS, Oreffo RO, Sato K, Rauvala H, Clarke NM, Roach HI.](#) Related Articles, Links
-  **Effects of targeted overexpression of pleiotrophin on postnatal bone development.**
Biochem Biophys Res Commun. 2002 Nov 1;298(3):324-32.
PMID: 12413943 [PubMed - indexed for MEDLINE]
-  **11:** [Deepa SS, Umehara Y, Higashiyama S, Itoh N, Sugahara K.](#) Related Articles, Links
-  **Specific molecular interactions of oversulfated chondroitin sulfate E with various heparin-binding growth factors. Implications as a physiological binding partner in the brain and other tissues.**
J Biol Chem. 2002 Nov 15;277(46):43707-16. Epub 2002 Sep 06.
PMID: 12221095 [PubMed - indexed for MEDLINE]
-  **12:** [Muramatsu T.](#) Related Articles, Links
-  **Midkine and pleiotrophin: two related proteins involved in development, survival, inflammation and tumorigenesis.**
J Biochem (Tokyo). 2002 Sep;132(3):359-71. Review.
PMID: 12204104 [PubMed - indexed for MEDLINE]
-  **13:** [Stoica GE, Kuo A, Powers C, Bowden ET, Saic EB, Riegel AT, Wellstein A.](#) Related Articles, Links
-  **Midkine binds to anaplastic lymphoma kinase (ALK) and acts as a growth factor for different cell types.**
J Biol Chem. 2002 Sep 27;277(39):35990-8. Epub 2002 Jul 16.
PMID: 12122009 [PubMed - indexed for MEDLINE]
-  **14:** [Iseki K, Hagino S, Mori T, Zhang Y, Yokoya S, Takaki H, Tase C, Murakawa M, Wanaka A.](#) Related Articles, Links
-  **Increased syndecan expression by pleiotrophin and FGF receptor-expressing astrocytes in injured brain tissue.**
Glia. 2002 Jul;39(1):1-9.
PMID: 12112370 [PubMed - indexed for MEDLINE]
-  **15:** [Bowden ET, Stoica GE, Wellstein A.](#) Related Articles, Links
-  **Anti-apoptotic signaling of pleiotrophin through its receptor, anaplastic lymphoma kinase.**
J Biol Chem. 2002 Sep 27;277(39):35862-8. Epub 2002 Jul 09.
PMID: 12107166 [PubMed - indexed for MEDLINE]
-  **16:** [Bernard-Pierrot I, Delbe J, Rouet V, Vigny M, Kerros ME, Caruelle D, Raulais D, Barritault D, Courty J, Milhiet PE.](#) Related Articles, Links
-  **Dominant negative effectors of heparin affinity regulatory peptide (HARP) angiogenic and transforming activities.**
J Biol Chem. 2002 Aug 30;277(35):32071-7. Epub 2002 Jun 17.
PMID: 12070152 [PubMed - indexed for MEDLINE]
-  **17:** [Asahina K, Sato H, Yamasaki C, Kataoka M, Shiokawa M, Katayama S, Tateno C, Yoshizato K.](#) Related Articles, Links


-  **Pleiotrophin/heparin-binding growth-associated molecule as a mitogen of rat hepatocytes and its role in regeneration and development of liver.**
Am J Pathol. 2002 Jun;160(6):2191-205.
PMID: 12057922 [PubMed - indexed for MEDLINE]
-  **18: Qin L.X. Tang ZY.** Related Articles, Links
-  **The prognostic molecular markers in hepatocellular carcinoma.**
World J Gastroenterol. 2002 Jun;8(3):385-92. Review.
PMID: 12046056 [PubMed - indexed for MEDLINE]
-  **19: Deuel TF, Zhang N, Yeh HJ, Silos-Santiago I, Wang ZY.** Related Articles, Links
-  **Pleiotrophin: a cytokine with diverse functions and a novel signaling pathway.**
Arch Biochem Biophys. 2002 Jan 15;397(2):162-71. Review.
PMID: 11795867 [PubMed - indexed for MEDLINE]
-  **20: Powers C, Aigner A, Stoica GE, McDonnell K, Wellstein A.** Related Articles, Links
-  **Pleiotrophin signaling through anaplastic lymphoma kinase is rate-limiting for glioblastoma growth.**
J Biol Chem. 2002 Apr 19;277(16):14153-8. Epub 2002 Jan 23.
PMID: 11809760 [PubMed - indexed for MEDLINE]
-  **21: Sakurai H, Bush KT, Nigam SK.** Related Articles, Links
-  **Identification of pleiotrophin as a mesenchymal factor involved in ureteric bud branching morphogenesis.**
Development. 2001 Sep;128(17):3283-93.
PMID: 11546745 [PubMed - indexed for MEDLINE]
-  **22: Kawachi H, Fujikawa A, Maeda N, Noda M.** Related Articles, Links
-  **Identification of GIT1/Cat-1 as a substrate molecule of protein tyrosine phosphatase zeta /beta by the yeast substrate-trapping system.**
Proc Natl Acad Sci U S A. 2001 Jun 5;98(12):6593-8. Epub 2001 May 29.
PMID: 11381105 [PubMed - indexed for MEDLINE]
-  **23: Qi M, Ikematsu S, Maeda N, Ichihara-Tanaka K, Sakuma S, Noda M, Muramatsu T, Kadomatsu K.** Related Articles, Links
-  **Haptotactic migration induced by midkine. Involvement of protein-tyrosine phosphatase zeta. Mitogen-activated protein kinase, and phosphatidylinositol 3-kinase.**
J Biol Chem. 2001 May 11;276(19):15868-75.
PMID: 11340082 [PubMed - indexed for MEDLINE]
-  **24: Stoica GE, Kuo A, Aigner A, Sunitha J, Souttou B, Malerezyk C, Caughey DJ, Wen D, Karavanov A, Riegel AT, Wellstein A.** Related Articles, Links
-  **Identification of anaplastic lymphoma kinase as a receptor for the growth factor pleiotrophin.**
J Biol Chem. 2001 May 18;276(20):16772-9. Epub 2001 Feb 08.
PMID: 11278720 [PubMed - indexed for MEDLINE]
-  **25: Bernard-Pierrot I, Delbe J, Caruelle D, Barritault D, Courty J, Milhiet PE.** Related Articles, Links
-  **The lysine-rich C-terminal tail of heparin affin regulatory peptide is required for mitogenic and tumor formation activities.**
J Biol Chem. 2001 Apr 13;276(15):12228-34. Epub 2001 Jan 09.
PMID: 11150308 [PubMed - indexed for MEDLINE]
-  **26: Dewing P, Ching ST, Zhang YH, Huang BL, Peirce RM, McCabe ER, Vilain E.** Related Articles, Links

Midkine is expressed early in rat fetal adrenal development.


-  Mol Genet Metab. 2000 Dec;71(4):616-22.
PMID: 11136554 [PubMed - indexed for MEDLINE]
-  **27:** [Rauvala H, Huttunen HJ, Fages C, Kaksonen M, Kinnunen T, Imai S, Raulo E, Kilpelainen I.](#) Related Articles, Links
Heparin-binding proteins HB-GAM (pleiotrophin) and amphoterin in the regulation of cell motility.
Matrix Biol. 2000 Sep;19(5):377-87. Review.
PMID: 10980414 [PubMed - indexed for MEDLINE]
-  **28:** [Zou K, Muramatsu H, Ikematsu S, Sakuma S, Salama RH, Shinomura T, Kimata K, Muramatsu T.](#) Related Articles, Links
A heparin-binding growth factor, midkine, binds to a chondroitin sulfate proteoglycan, PG-M/versican.
Eur J Biochem. 2000 Jul;267(13):4046-53.
PMID: 10866805 [PubMed - indexed for MEDLINE]
-  **29:** [Cherrington JM, Strawn LM, Shawver LK.](#) Related Articles, Links
New paradigms for the treatment of cancer: the role of anti-angiogenesis agents.
Adv Cancer Res. 2000;79:1-38. Review.
PMID: 10818676 [PubMed - indexed for MEDLINE]
-  **30:** [Meng K, Rodriguez-Pena A, Dimitrov T, Chen W, Yamin M, Noda M, Deuel TF.](#) Related Articles, Links
Pleiotrophin signals increased tyrosine phosphorylation of beta beta-catenin through inactivation of the intrinsic catalytic activity of the receptor-type protein tyrosine phosphatase beta/zeta.
Proc Natl Acad Sci U S A. 2000 Mar 14;97(6):2603-8.
PMID: 10706604 [PubMed - indexed for MEDLINE]
-  **31:** [Fages C, Nolo R, Huttunen HJ, Eskelinen E, Rauvala H.](#) Related Articles, Links
Regulation of cell migration by amphoterin.
J Cell Sci. 2000 Feb;113 (Pt 4):611-20.
PMID: 10652254 [PubMed - indexed for MEDLINE]
-  **32:** [Godden JL, Edward M, MacKie RM.](#) Related Articles, Links
Melanoma cell-derived factor stimulation of fibroblast glycosaminoglycan synthesis--the role of platelet-derived growth factor.
Eur J Cancer. 1999 Mar;35(3):473-80.
PMID: 10448302 [PubMed - indexed for MEDLINE]
-  **33:** [Zhang N, Zhong R, Deuel TF.](#) Related Articles, Links
Domain structure of pleiotrophin required for transformation.
J Biol Chem. 1999 May 7;274(19):12959-62.
PMID: 10224041 [PubMed - indexed for MEDLINE]
-  **34:** [Maeda N, Ichihara-Tanaka K, Kimura T, Kadomatsu K, Muramatsu T, Noda M.](#) Related Articles, Links
A receptor-like protein-tyrosine phosphatase PTPzeta/RPTPbeta binds a heparin-binding growth factor midkine. Involvement of arginine 78 of midkine in the high affinity binding to PTPzeta.
J Biol Chem. 1999 Apr 30;274(18):12474-9.
PMID: 10212223 [PubMed - indexed for MEDLINE]
-  **35:** [Yamakawa T, Kurosawa N, Kadomatsu K, Matsui T, Itoh K, Maeda N, Noda M, Muramatsu T.](#) Related Articles, Links
Levels of expression of pleiotrophin and protein tyrosine phosphatase zeta are decreased in human colorectal cancers.


Cancer Lett. 1999 Jan 8;135(1):91-6.
PMID: 10077226 [PubMed - indexed for MEDLINE]


-  **36:** [Kinnunen A, Niemi M, Kinnunen T, Kaksonen M, Nolo R, Rauvala H](#) Related Articles, Links


 **Heparan sulphate and HB-GAM (heparin-binding growth-associated molecule) in the development of the thalamocortical pathway of rat brain.**
Eur J Neurosci. 1999 Feb;11(2):491-502.
PMID: 10051750 [PubMed - indexed for MEDLINE]


-  **37:** [Juhl H, Czubayko F, Henne-Bruns D](#) Related Articles, Links


 **[Ribozyme targeting as gene therapy method for treatment of malignant tumors]**
Langenbecks Arch Chir Suppl Kongressbd. 1998;115:1474-7. German.
PMID: 9931916 [PubMed - indexed for MEDLINE]


-  **38:** [Imai S, Kaksonen M, Rauho E, Kinnunen T, Fages C, Meng X, Lakso M, Rauvala H](#) Related Articles, Links

 **Osteoblast recruitment and bone formation enhanced by cell matrix-associated heparin-binding growth-associated molecule (HB-GAM).**
J Cell Biol. 1998 Nov 16;143(4):1113-28.
PMID: 9817766 [PubMed - indexed for MEDLINE]


-  **39:** [Liu X, Mashour GA, Webster HF, Kurtz A](#) Related Articles, Links


 **Basic FGF and FGF receptor 1 are expressed in microglia during experimental autoimmune encephalomyelitis: temporally distinct expression of midkine and pleiotrophin.**
Glia. 1998 Dec;24(4):390-7.
PMID: 9814819 [PubMed - indexed for MEDLINE]


-  **40:** [Peng HB, Ali AA, Daggett DF, Rauvala H, Hassell JR, Smalheiser NR](#) Related Articles, Links


 **The relationship between perlecan and dystroglycan and its implication in the formation of the neuromuscular junction.**
Cell Adhes Commun. 1998 Sep;5(6):475-89.
PMID: 9791728 [PubMed - indexed for MEDLINE]


-  **41:** [Lauri SE, Rauvala H, Kaila K, Taira T](#) Related Articles, Links

 **Effect of heparin-binding growth-associated molecule (HB-GAM) on synaptic transmission and early LTP in rat hippocampal slices.**
Eur J Neurosci. 1998 Jan;10(1):188-94.
PMID: 9753126 [PubMed - indexed for MEDLINE]

-  **42:** [Kinnunen A, Kinnunen T, Kaksonen M, Nolo R, Panula P, Rauvala H](#) Related Articles, Links










 **N-syndecan and HB-GAM (heparin-binding growth-associated molecule) associate with early axonal tracts in the rat brain.**
Eur J Neurosci. 1998 Feb;10(2):635-48.
PMID: 9749725 [PubMed - indexed for MEDLINE]

-  **43:** [Fages C, Kaksonen M, Kinnunen T, Punnonen EL, Rauvala H](#) Related Articles, Links










 **Regulation of mRNA localization by transmembrane signalling: local interaction of HB-GAM (heparin-binding growth-associated molecule) with the cell surface localizes beta-actin mRNA.**
J Cell Sci. 1998 Oct;111 (Pt 20):3073-80.
PMID: 9739080 [PubMed - indexed for MEDLINE]

-  **44:** [Maeda N, Noda M](#) Related Articles, Links

Involvement of receptor-like protein tyrosine phosphatase zeta/RPTPbeta

-  and its ligand pleiotrophin/heparin-binding growth-associated molecule (HB-GAM) in neuronal migration.
J Cell Biol. 1998 Jul 13;142(1):203-16.
PMID: 9660874 [PubMed - indexed for MEDLINE]
- 45: [Ratovitski EA, Kotzbauer PT, Milbrandt J, Lowenstein CJ, Burrow CR](#) Related Articles, Links
-  Midkine induces tumor cell proliferation and binds to a high affinity signaling receptor associated with JAK tyrosine kinases.
J Biol Chem. 1998 Feb 6;273(6):3654-60.
PMID: 9452495 [PubMed - indexed for MEDLINE]
- 46: [Czubayko F, Downing SG, Hsieh SS, Goldstein DJ, Lu P.Y, Trapnell BC, Wellstein A](#) Related Articles, Links
-  Adenovirus-mediated transduction of ribozymes abrogates HER-2/neu and pleiotrophin expression and inhibits tumor cell proliferation.
Gene Ther. 1997 Sep;4(9):943-9.
PMID: 9349431 [PubMed - indexed for MEDLINE]
- 47: [Haltia A, Solin ML, Muramatsu T, Jalanko H, Holmberg C, Miettinen A, Holthofer H](#) Related Articles, Links
-  Expression of nine developmental stage-specific genes in human kidney and cultured renal cells.
Exp Nephrol. 1997 Nov-Dec;5(6):457-64.
PMID: 9438174 [PubMed - indexed for MEDLINE]
- 48: [Rauvala H, Peng HB](#) Related Articles, Links
-  HB-GAM (heparin-binding growth-associated molecule) and heparin-type glycans in the development and plasticity of neuron-target contacts.
Prog Neurobiol. 1997 Jun;52(2):127-44. Review.
PMID: 9185236 [PubMed - indexed for MEDLINE]
- 49: [Ratovitski EA, Burrow CR](#) Related Articles, Links
-  Midkine stimulates Wilms' tumor cell proliferation via its signaling receptor.
Cell Mol Biol (Noisy-le-grand). 1997 May;43(3):425-31.
PMID: 9193798 [PubMed - indexed for MEDLINE]
- 50: [Relf M, LeJeune S, Scott PA, Fox S, Smith K, Leek R, Moghaddam A, Whitehouse R, Bicknell R, Harris AL](#) Related Articles, Links
-  Expression of the angiogenic factors vascular endothelial cell growth factor, acidic and basic fibroblast growth factor, tumor growth factor beta-1, platelet-derived endothelial cell growth factor, placenta growth factor, and pleiotrophin in human primary breast cancer and its relation to angiogenesis.
Cancer Res. 1997 Mar 1;57(5):963-9.
PMID: 9041202 [PubMed - indexed for MEDLINE]
- 51: [Brodeur GM, Nakagawara A, Yamashiro DJ, Ikegaki N, Liu XG, Azar CG, Lee CP, Evans AE](#) Related Articles, Links
-  Expression of TrkA, TrkB and TrkC in human neuroblastomas.
J Neurooncol. 1997 Jan;31(1-2):49-55.
PMID: 9049830 [PubMed - indexed for MEDLINE]
- 52: [Maeda N, Nishiwaki T, Shintani T, Hamanaka H, Noda M](#) Related Articles, Links
-  6B4 proteoglycan/phosphacan, an extracellular variant of receptor-like protein-tyrosine phosphatase zeta/RPTPbeta, binds pleiotrophin/heparin-binding growth-associated molecule (HB-GAM).
J Biol Chem. 1996 Aug 30;271(35):21446-52.

PMID: 8702927 [PubMed - indexed for MEDLINE]

-  **53:** [Szabat E, Rauvala H.](#) Related Articles, Links
Role of HB-GAM (heparin-binding growth-associated molecule) in proliferation arrest in cells of the developing rat limb and its expression in the differentiating neuromuscular system.
 Dev Biol. 1996 Aug 25;178(1):77-89.
 PMID: 8812110 [PubMed - indexed for MEDLINE]
-  **54:** [Lauri SE, Taira T, Kaila K, Rauvala H.](#) Related Articles, Links
Activity-induced enhancement of HB-GAM expression in rat hippocampal slices.
 Neuroreport. 1996 Jul 8;7(10):1670-4.
 PMID: 8904779 [PubMed - indexed for MEDLINE]
-  **55:** [Kinnunen T, Raulo E, Nolo R, Maccarana M, Lindahl U, Rauvala H.](#) Related Articles, Links
Neurite outgrowth in brain neurons induced by heparin-binding growth-associated molecule (HB-GAM) depends on the specific interaction of HB-GAM with heparan sulfate at the cell surface.
 J Biol Chem. 1996 Jan 26;271(4):2243-8.
 PMID: 8567685 [PubMed - indexed for MEDLINE]
-  **56:** [Daggett DF, Cohen MW, Stone D, Nikolics K, Rauvala H, Peng HB.](#) Related Articles, Links
The role of an agrin-growth factor interaction in ACh receptor clustering.
 Mol Cell Neurosci. 1996;8(4):272-85.
 PMID: 9026315 [PubMed - indexed for MEDLINE]
-  **57:** [Tsujimura A, Yasejima K, Kuboki Y, Suzuki A, Ueno N, Shiokawa K, Hashimoto-Gotoh T.](#) Related Articles, Links
Developmental and differential regulations in gene expression of Xenopus pleiotrophic factors-alpha and -beta.
 Biochem Biophys Res Commun. 1995 Sep 14;214(2):432-9.
 PMID: 7677748 [PubMed - indexed for MEDLINE]
-  **58:** [Nakagawara A, Milbrandt J, Muramatsu T, Deuel TF, Zhao H, Cnaan A, Brodeur GM.](#) Related Articles, Links
Differential expression of pleiotrophin and midkine in advanced neuroblastomas.
 Cancer Res. 1995 Apr 15;55(8):1792-7.
 PMID: 7712489 [PubMed - indexed for MEDLINE]
-  **59:** [Peng HB, Ali AA, Dai Z, Daggett DF, Raulo E, Rauvala H.](#) Related Articles, Links
The role of heparin-binding growth-associated molecule (HB-GAM) in the postsynaptic induction in cultured muscle cells.
 J Neurosci. 1995 Apr;15(4):3027-38.
 PMID: 7722643 [PubMed - indexed for MEDLINE]
-  **60:** [Garver RI Jr, Radford DM, Donis-Keller H, Wick MR, Milner PG.](#) Related Articles, Links
Midkine and pleiotrophin expression in normal and malignant breast tissue.
 Cancer. 1994 Sep 1;74(5):1584-90.
 PMID: 7520350 [PubMed - indexed for MEDLINE]
-  **61:** [Raulo E, Chernousov MA, Carey DJ, Nolo R, Rauvala H.](#) Related Articles, Links
Isolation of a neuronal cell surface receptor of heparin binding growth-associated molecule (HB-GAM). Identification as N-syndecan (syndecan-3).
 J Biol Chem. 1994 Apr 29;269(17):12999-3004.

PMID: 8175719 [PubMed - indexed for MEDLINE]

62: [Gieffers C, Engelhardt W, Brenzel G, Matsuishi T, Frey J.](#) Related Articles, Links



Receptor binding of osteoblast-specific factor 1 (OSF-1/HB-GAM) to human osteosarcoma cells promotes cell attachment.

Eur J Cell Biol. 1993 Dec;62(2):352-61.

PMID: 7925491 [PubMed - indexed for MEDLINE]

63: [Kuo MD, Huang SS, Huang JS.](#) Related Articles, Links



Characterization of heparin-binding growth-associated factor receptor on NIH 3T3 cells.

Biochem Biophys Res Commun. 1992 Jan 15;182(1):188-94.

PMID: 1731778 [PubMed - indexed for MEDLINE]

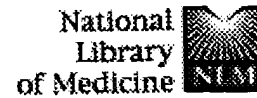
Display	Summary	Show:	500	Sort	Send to	Text
---------	---------	-------	-----	------	---------	------

Items 1-63 of 63

One page.

[Write to the Help Desk](#)
[NCBI](#) | [NLM](#) | [NIH](#)
[Department of Health & Human Services](#)
[Freedom of Information Act](#) | [Disclaimer](#)

Apr 13 2004 06:53:40



Entrez PubMed Nucleotide Protein Genomes Structure OMIM PMC Journals Book
 Search PubMed for pleiotrophin receptor Go Clear
 Limits Preview/Index History Clipboard Details

About Entrez

Display Summary Show: 500 Sort Send to Text

Items 1-63 of 63

One page.

Text Version

Entrez PubMed



















Overview
 Help | FAQ
 Tutorial
 New/Noteworthy
 E-Utilities



















PubMed Services
 Journals Database
 MeSH Database
 Single Citation Matcher
 Batch Citation Matcher
 Clinical Queries
 LinkOut
 Cubby

Related Resources
 Order Documents
 NLM Gateway
 TOXNET
 Consumer Health
 Clinical Alerts
 ClinicalTrials.gov
 PubMed Central










Privacy Policy

- 1: [Kadomatsu K, Muramatsu T.](#) [Related Articles, Links](#)
 Midkine and pleiotrophin in neural development and cancer.
 Cancer Lett. 2004 Feb 20;204(2):127-43.
 PMID: 15013213 [PubMed - in process]
- 2: [Heroult M, Bernard-Pierrot I, Delbe J, Hamma-Kourbali Y, Katsoris P, Barritault D, Papadimitriou E, Plouet J, Courty J.](#) [Related Articles, Links](#)
 Heparin affin regulatory peptide binds to vascular endothelial growth factor (VEGF) and inhibits VEGF-induced angiogenesis.
 Oncogene. 2004 Mar 4;23(9):1745-53.
 PMID: 15001987 [PubMed - indexed for MEDLINE]
- 3: [Ulbricht U, Brockmann MA, Aigner A, Eckerich C, Muller S, Fillbrandt R, Westphal M, Lamszus K.](#) [Related Articles, Links](#)
 Expression and function of the receptor protein tyrosine phosphatase zeta and its ligand pleiotrophin in human astrocytomas.
 J Neuropathol Exp Neurol. 2003 Dec;62(12):1265-75.
 PMID: 14692702 [PubMed - indexed for MEDLINE]
- 4: [Muller S, Kunkel P, Lamszus K, Ulbricht U, Lorente GA, Nelson AM, von Schack D, Chin DJ, Lohr SC, Westphal M, Melcher T.](#) [Related Articles, Links](#)
 A role for receptor tyrosine phosphatase zeta in glioma cell migration.
 Oncogene. 2003 Oct 2;22(43):6661-8.
 PMID: 14555979 [PubMed - indexed for MEDLINE]
- 5: [Maeda N, He J, Yajima Y, Mikami T, Sugahara K, Yabe T.](#) [Related Articles, Links](#)
 Heterogeneity of the chondroitin sulfate portion of phosphacan/6B4 proteoglycan regulates its binding affinity for pleiotrophin/heparin binding growth-associated molecule.
 J Biol Chem. 2003 Sep 12;278(37):35805-11. Epub 2003 Jul 02.
 PMID: 12840014 [PubMed - indexed for MEDLINE]
- 6: [Brockmann MA, Ulbricht U, Gruner K, Fillbrandt R, Westphal M, Lamszus K.](#) [Related Articles, Links](#)
 Glioblastoma and cerebral microvascular endothelial cell migration in response to tumor-associated growth factors.
 Neurosurgery. 2003 Jun;52(6):1391-9; discussion 1399.
 PMID: 12762884 [PubMed - indexed for MEDLINE]
- 7: [Tanaka M, Maeda N, Noda M, Marunouchi T.](#) [Related Articles, Links](#)
 A chondroitin sulfate proteoglycan PTPzeta /RPTPbeta regulates the morphogenesis of Purkinje cell dendrites in the developing cerebellum.
 J Neurosci. 2003 Apr 1;23(7):2804-14.
 PMID: 12684467 [PubMed - indexed for MEDLINE]
- 8: [Fujikawa A, Shirasaka D, Yamamoto S, Ota H, Yahiro K, Fukada M, Shintani T, Wada A, Aoyama N, Hirayama T, Fukamachi H, Noda M.](#) [Related Articles, Links](#)










-  **Mice deficient in protein tyrosine phosphatase receptor type Z are resistant to gastric ulcer induction by VacA of Helicobacter pylori.**
Nat Genet. 2003 Mar;33(3):375-81. Epub 2003 Feb 24. Erratum in: Nat Genet. 2003 Apr;33(4):533.
PMID: 12598897 [PubMed - indexed for MEDLINE]
-  **9:** [Beltran PJ, Bixby JL.](#) Related Articles, Links
-  **Receptor protein tyrosine phosphatases as mediators of cellular adhesion.**
Front Biosci. 2003 Jan 1;8:d87-99. Review.
PMID: 12456340 [PubMed - indexed for MEDLINE]
-  **10:** [Tare RS, Oreffo RO, Sato K, Rauvala H, Clarke NM, Roach HI.](#) Related Articles, Links
-  **Effects of targeted overexpression of pleiotrophin on postnatal bone development.**
Biochem Biophys Res Commun. 2002 Nov 1;298(3):324-32.
PMID: 12413943 [PubMed - indexed for MEDLINE]
-  **11:** [Deepa SS, Umehara Y, Higashiyama S, Itoh N, Sugahara K.](#) Related Articles, Links
-  **Specific molecular interactions of oversulfated chondroitin sulfate E with various heparin-binding growth factors. Implications as a physiological binding partner in the brain and other tissues.**
J Biol Chem. 2002 Nov 15;277(46):43707-16. Epub 2002 Sep 06.
PMID: 12221095 [PubMed - indexed for MEDLINE]
-  **12:** [Muramatsu T.](#) Related Articles, Links
-  **Midkine and pleiotrophin: two related proteins involved in development, survival, inflammation and tumorigenesis.**
J Biochem (Tokyo). 2002 Sep;132(3):359-71. Review.
PMID: 12204104 [PubMed - indexed for MEDLINE]
-  **13:** [Stoica GE, Kuo A, Powers C, Bowden ET, Sale EB, Riegel AT, Wellstein A.](#) Related Articles, Links
-  **Midkine binds to anaplastic lymphoma kinase (ALK) and acts as a growth factor for different cell types.**
J Biol Chem. 2002 Sep 27;277(39):35990-8. Epub 2002 Jul 16.
PMID: 12122009 [PubMed - indexed for MEDLINE]
-  **14:** [Iseki K, Hagino S, Mori T, Zhang Y, Yokoya S, Takaki H, Tase C, Murakawa M, Wanaka A.](#) Related Articles, Links
-  **Increased syndecan expression by pleiotrophin and FGF receptor-expressing astrocytes in injured brain tissue.**
Glia. 2002 Jul;39(1):1-9.
PMID: 12112370 [PubMed - indexed for MEDLINE]
-  **15:** [Bowden ET, Stoica GE, Wellstein A.](#) Related Articles, Links
-  **Anti-apoptotic signaling of pleiotrophin through its receptor, anaplastic lymphoma kinase.**
J Biol Chem. 2002 Sep 27;277(39):35862-8. Epub 2002 Jul 09.
PMID: 12107166 [PubMed - indexed for MEDLINE]
-  **16:** [Bernard-Pierrot I, Delbe J, Rouet V, Vigny M, Kerros ME, Caruelle D, Raulais D, Barritault D, Courty J, Milhiet PE.](#) Related Articles, Links
-  **Dominant negative effectors of heparin affin regulatory peptide (HARP) angiogenic and transforming activities.**
J Biol Chem. 2002 Aug 30;277(35):32071-7. Epub 2002 Jun 17.
PMID: 12070152 [PubMed - indexed for MEDLINE]
-  **17:** [Asahina K, Sato H, Yamasaki C, Kataoka M, Shiokawa M, Katayama S, Tateno C, Yoshizato K.](#) Related Articles, Links

-  **Pleiotrophin/heparin-binding growth-associated molecule as a mitogen of rat hepatocytes and its role in regeneration and development of liver.**
Am J Pathol. 2002 Jun;160(6):2191-205.
PMID: 12057922 [PubMed - indexed for MEDLINE]
-  **18:** [Qin L.X. Tang Z.Y.](#) Related Articles, Links
-  **The prognostic molecular markers in hepatocellular carcinoma.**
World J Gastroenterol. 2002 Jun;8(3):385-92. Review.
PMID: 12046056 [PubMed - indexed for MEDLINE]
-  **19:** [Deuel TF, Zhang N, Yeh HJ, Silos-Santiago I, Wang ZY.](#) Related Articles, Links
-  **Pleiotrophin: a cytokine with diverse functions and a novel signaling pathway.**
Arch Biochem Biophys. 2002 Jan 15;397(2):162-71. Review.
PMID: 11795867 [PubMed - indexed for MEDLINE]
-  **20:** [Powers C, Aigner A, Stoica GE, McDonnell K, Wellstein A.](#) Related Articles, Links
-  **Pleiotrophin signaling through anaplastic lymphoma kinase is rate-limiting for glioblastoma growth.**
J Biol Chem. 2002 Apr 19;277(16):14153-8. Epub 2002 Jan 23.
PMID: 11809760 [PubMed - indexed for MEDLINE]
-  **21:** [Sakurai H, Bush KT, Nigam SK.](#) Related Articles, Links
-  **Identification of pleiotrophin as a mesenchymal factor involved in ureteric bud branching morphogenesis.**
Development. 2001 Sep;128(17):3283-93.
PMID: 11546745 [PubMed - indexed for MEDLINE]
-  **22:** [Kawachi H, Fujikawa A, Maeda N, Noda M.](#) Related Articles, Links
-  **Identification of GIT1/Cat-1 as a substrate molecule of protein tyrosine phosphatase zeta /beta by the yeast substrate-trapping system.**
Proc Natl Acad Sci U S A. 2001 Jun 5;98(12):6593-8. Epub 2001 May 29.
PMID: 11381105 [PubMed - indexed for MEDLINE]
-  **23:** [Qi M, Ikematsu S, Maeda N, Ichihara-Tanaka K, Sakuma S, Noda M, Muramatsu T, Kadomatsu K.](#) Related Articles, Links
-  **Haptotactic migration induced by midkine. Involvement of protein-tyrosine phosphatase zeta. Mitogen-activated protein kinase, and phosphatidylinositol 3-kinase.**
J Biol Chem. 2001 May 11;276(19):15868-75.
PMID: 11340082 [PubMed - indexed for MEDLINE]
-  **24:** [Stoica GE, Kuo A, Aigner A, Sunitha J, Souttou B, Malerczyk C, Caughey DJ, Wen D, Karavanov A, Riegel AT, Wellstein A.](#) Related Articles, Links
-  **Identification of anaplastic lymphoma kinase as a receptor for the growth factor pleiotrophin.**
J Biol Chem. 2001 May 18;276(20):16772-9. Epub 2001 Feb 08.
PMID: 11278720 [PubMed - indexed for MEDLINE]
-  **25:** [Bernard-Pierrot I, Delbe J, Caruelle D, Barritault D, Courty J, Milhiet PE.](#) Related Articles, Links
-  **The lysine-rich C-terminal tail of heparin affin regulatory peptide is required for mitogenic and tumor formation activities.**
J Biol Chem. 2001 Apr 13;276(15):12228-34. Epub 2001 Jan 09.
PMID: 11150308 [PubMed - indexed for MEDLINE]
-  **26:** [Dewing P, Ching ST, Zhang YH, Huang BL, Peirce RM, McCabe ER, Vilain E.](#) Related Articles, Links










Midkine is expressed early in rat fetal adrenal development.

-  Mol Genet Metab. 2000 Dec;71(4):616-22.
PMID: 11136554 [PubMed - indexed for MEDLINE]
- 27: [Rauvala H, Huttunen HJ, Fages C, Kaksonen M, Kinnunen T, Imai S, Raulo E, Kilpelainen I.](#) Related Articles, Links
Heparin-binding proteins HB-GAM (pleiotrophin) and amphoterin in the regulation of cell motility.
Matrix Biol. 2000 Sep;19(5):377-87. Review.
PMID: 10980414 [PubMed - indexed for MEDLINE]
-  **Heparin-binding proteins HB-GAM (pleiotrophin) and amphoterin in the regulation of cell motility.**
Matrix Biol. 2000 Sep;19(5):377-87. Review.
PMID: 10980414 [PubMed - indexed for MEDLINE]
- 28: [Zou K, Muramatsu H, Ikematsu S, Sakuma S, Salama RH, Shinomura T, Kimata K, Muramatsu T.](#) Related Articles, Links
A heparin-binding growth factor, midkine, binds to a chondroitin sulfate proteoglycan, PG-M/versican.
Eur J Biochem. 2000 Jul;267(13):4046-53.
PMID: 10866805 [PubMed - indexed for MEDLINE]
-  **A heparin-binding growth factor, midkine, binds to a chondroitin sulfate proteoglycan, PG-M/versican.**
Eur J Biochem. 2000 Jul;267(13):4046-53.
PMID: 10866805 [PubMed - indexed for MEDLINE]
- 29: [Cherrington JM, Strawn LM, Shawver LK.](#) Related Articles, Links
New paradigms for the treatment of cancer: the role of anti-angiogenesis agents.
Adv Cancer Res. 2000;79:1-38. Review.
PMID: 10818676 [PubMed - indexed for MEDLINE]
-  **New paradigms for the treatment of cancer: the role of anti-angiogenesis agents.**
Adv Cancer Res. 2000;79:1-38. Review.
PMID: 10818676 [PubMed - indexed for MEDLINE]
- 30: [Meng K, Rodriguez-Pena A, Dimitrov T, Chen W, Yamin M, Noda M, Deuel TF.](#) Related Articles, Links
Pleiotrophin signals increased tyrosine phosphorylation of beta beta-catenin through inactivation of the intrinsic catalytic activity of the receptor-type protein tyrosine phosphatase beta/zeta.
Proc Natl Acad Sci U S A. 2000 Mar 14;97(6):2603-8.
PMID: 10706604 [PubMed - indexed for MEDLINE]
-  **Pleiotrophin signals increased tyrosine phosphorylation of beta beta-catenin through inactivation of the intrinsic catalytic activity of the receptor-type protein tyrosine phosphatase beta/zeta.**
Proc Natl Acad Sci U S A. 2000 Mar 14;97(6):2603-8.
PMID: 10706604 [PubMed - indexed for MEDLINE]
- 31: [Fages C, Nolo R, Huttunen HJ, Eskelinen E, Rauvala H.](#) Related Articles, Links
Regulation of cell migration by amphoterin.
J Cell Sci. 2000 Feb;113 (Pt 4):611-20.
PMID: 10652254 [PubMed - indexed for MEDLINE]
-  **Regulation of cell migration by amphoterin.**
J Cell Sci. 2000 Feb;113 (Pt 4):611-20.
PMID: 10652254 [PubMed - indexed for MEDLINE]
- 32: [Godden JL, Edward M, MacKie RM.](#) Related Articles, Links
Melanoma cell-derived factor stimulation of fibroblast glycosaminoglycan synthesis--the role of platelet-derived growth factor.
Eur J Cancer. 1999 Mar;35(3):473-80.
PMID: 10448302 [PubMed - indexed for MEDLINE]
-  **Melanoma cell-derived factor stimulation of fibroblast glycosaminoglycan synthesis--the role of platelet-derived growth factor.**
Eur J Cancer. 1999 Mar;35(3):473-80.
PMID: 10448302 [PubMed - indexed for MEDLINE]
- 33: [Zhang N, Zhong R, Deuel TF.](#) Related Articles, Links
Domain structure of pleiotrophin required for transformation.
J Biol Chem. 1999 May 7;274(19):12959-62.
PMID: 10224041 [PubMed - indexed for MEDLINE]
-  **Domain structure of pleiotrophin required for transformation.**
J Biol Chem. 1999 May 7;274(19):12959-62.
PMID: 10224041 [PubMed - indexed for MEDLINE]
- 34: [Maeda N, Ichihara-Tanaka K, Kimura T, Kadomatsu K, Muramatsu T, Noda M.](#) Related Articles, Links
A receptor-like protein-tyrosine phosphatase PTPzeta/RPTPbeta binds a heparin-binding growth factor midkine. Involvement of arginine 78 of midkine in the high affinity binding to PTPzeta.
J Biol Chem. 1999 Apr 30;274(18):12474-9.
PMID: 10212223 [PubMed - indexed for MEDLINE]
-  **A receptor-like protein-tyrosine phosphatase PTPzeta/RPTPbeta binds a heparin-binding growth factor midkine. Involvement of arginine 78 of midkine in the high affinity binding to PTPzeta.**
J Biol Chem. 1999 Apr 30;274(18):12474-9.
PMID: 10212223 [PubMed - indexed for MEDLINE]
- 35: [Yamakawa T, Kurosawa N, Kadomatsu K, Matsui T, Itoh K, Maeda N, Noda M, Muramatsu T.](#) Related Articles, Links
Levels of expression of pleiotrophin and protein tyrosine phosphatase zeta are decreased in human colorectal cancers.










Cancer Lett. 1999 Jan 8;135(1):91-6.
PMID: 10077226 [PubMed - indexed for MEDLINE]

-  **36:** [Kinnunen A, Niemi M, Kinnunen T, Kaksonen M, Nolo R, Rauvala H](#) Related Articles, Links
Heparan sulphate and HB-GAM (heparin-binding growth-associated molecule) in the development of the thalamocortical pathway of rat brain.
Eur J Neurosci. 1999 Feb;11(2):491-502.
PMID: 10051750 [PubMed - indexed for MEDLINE]
-  **37:** [Juhl H, Czubyko F, Henne-Bruns D](#) Related Articles, Links
[Ribozyme targeting as gene therapy method for treatment of malignant tumors]
Langenbecks Arch Chir Suppl Kongressbd. 1998;115:1474-7. German.
PMID: 9931916 [PubMed - indexed for MEDLINE]
-  **38:** [Imai S, Kaksonen M, Raulo E, Kinnunen T, Fages C, Meng X, Lakso M, Rauvala H](#) Related Articles, Links
Osteoblast recruitment and bone formation enhanced by cell matrix-associated heparin-binding growth-associated molecule (HB-GAM).
J Cell Biol. 1998 Nov 16;143(4):1113-28.
PMID: 9817766 [PubMed - indexed for MEDLINE]
-  **39:** [Liu X, Mashour GA, Webster HF, Kurtz A](#) Related Articles, Links
Basic FGF and FGF receptor 1 are expressed in microglia during experimental autoimmune encephalomyelitis: temporally distinct expression of midkine and pleiotrophin.
Glia. 1998 Dec;24(4):390-7.
PMID: 9814819 [PubMed - indexed for MEDLINE]
-  **40:** [Peng HB, Ali AA, Daggett DF, Rauvala H, Hassell JR, Smalheiser NR](#) Related Articles, Links
The relationship between perlecan and dystroglycan and its implication in the formation of the neuromuscular junction.
Cell Adhes Commun. 1998 Sep;5(6):475-89.
PMID: 9791728 [PubMed - indexed for MEDLINE]
-  **41:** [Lauri SE, Rauvala H, Kaila K, Taira T](#) Related Articles, Links
Effect of heparin-binding growth-associated molecule (HB-GAM) on synaptic transmission and early LTP in rat hippocampal slices.
Eur J Neurosci. 1998 Jan;10(1):188-94.
PMID: 9753126 [PubMed - indexed for MEDLINE]
-  **42:** [Kinnunen A, Kinnunen T, Kaksonen M, Nolo R, Panula P, Rauvala H](#) Related Articles, Links
N-syndecan and HB-GAM (heparin-binding growth-associated molecule) associate with early axonal tracts in the rat brain.
Eur J Neurosci. 1998 Feb;10(2):635-48.
PMID: 9749725 [PubMed - indexed for MEDLINE]
-  **43:** [Fages C, Kaksonen M, Kinnunen T, Punnonen EL, Rauvala H](#) Related Articles, Links
Regulation of mRNA localization by transmembrane signalling: local interaction of HB-GAM (heparin-binding growth-associated molecule) with the cell surface localizes beta-actin mRNA.
J Cell Sci. 1998 Oct;111 (Pt 20):3073-80.
PMID: 9739080 [PubMed - indexed for MEDLINE]
-  **44:** [Macda N, Noda M](#) Related Articles, Links

Involvement of receptor-like protein tyrosine phosphatase zeta/RPTPbeta

-  and its ligand pleiotrophin/heparin-binding growth-associated molecule (HB-GAM) in neuronal migration.
J Cell Biol. 1998 Jul 13;142(1):203-16.
PMID: 9660874 [PubMed - indexed for MEDLINE]
- 45: [Ratovitski EA, Kotzbauer PT, Milbrandt J, Lowenstein CJ, Burrow CR](#) Related Articles, Links
-  Midkine induces tumor cell proliferation and binds to a high affinity signaling receptor associated with JAK tyrosine kinases.
J Biol Chem. 1998 Feb 6;273(6):3654-60.
PMID: 9452495 [PubMed - indexed for MEDLINE]
- 46: [Czubayko F, Downing SG, Hsieh SS, Goldstein DJ, Lu P.Y, Trapnell BC, Wellstein A](#) Related Articles, Links
-  Adenovirus-mediated transduction of ribozymes abrogates HER-2/neu and pleiotrophin expression and inhibits tumor cell proliferation.
Gene Ther. 1997 Sep;4(9):943-9.
PMID: 9349431 [PubMed - indexed for MEDLINE]
- 47: [Haltia A, Solin ML, Muramatsu T, Jalanko H, Holmberg C, Miettinen A, Holthofer H](#) Related Articles, Links
-  Expression of nine developmental stage-specific genes in human kidney and cultured renal cells.
Exp Nephrol. 1997 Nov-Dec;5(6):457-64.
PMID: 9438174 [PubMed - indexed for MEDLINE]
- 48: [Rauvala H, Peng HB](#) Related Articles, Links
-  HB-GAM (heparin-binding growth-associated molecule) and heparin-type glycans in the development and plasticity of neuron-target contacts.
Prog Neurobiol. 1997 Jun;52(2):127-44. Review.
PMID: 9185236 [PubMed - indexed for MEDLINE]
- 49: [Ratovitski EA, Burrow CR](#) Related Articles, Links
-  Midkine stimulates Wilms' tumor cell proliferation via its signaling receptor.
Cell Mol Biol (Noisy-le-grand). 1997 May;43(3):425-31.
PMID: 9193798 [PubMed - indexed for MEDLINE]
- 50: [Relf M, LeJeune S, Scott PA, Fox S, Smith K, Leek R, Moghaddam A, Whitehouse R, Bicknell R, Harris AL](#) Related Articles, Links
-  Expression of the angiogenic factors vascular endothelial cell growth factor, acidic and basic fibroblast growth factor, tumor growth factor beta-1, platelet-derived endothelial cell growth factor, placenta growth factor, and pleiotrophin in human primary breast cancer and its relation to angiogenesis.
Cancer Res. 1997 Mar 1;57(5):963-9.
PMID: 9041202 [PubMed - indexed for MEDLINE]
- 51: [Brodeur GM, Nakagawara A, Yamashiro DJ, Ikegaki N, Liu XG, Azar CG, Lee CP, Evans AE](#) Related Articles, Links
-  Expression of TrkA, TrkB and TrkC in human neuroblastomas.
J Neurooncol. 1997 Jan;31(1-2):49-55.
PMID: 9049830 [PubMed - indexed for MEDLINE]
- 52: [Maeda N, Nishiwaki T, Shintani T, Hamanaka H, Noda M](#) Related Articles, Links
-  6B4 proteoglycan/phosphacan, an extracellular variant of receptor-like protein-tyrosine phosphatase zeta/RPTPbeta, binds pleiotrophin/heparin-binding growth-associated molecule (HB-GAM).
J Biol Chem. 1996 Aug 30;271(35):21446-52.

PMID: 8702927 [PubMed - indexed for MEDLINE]

-  **53:** [Szabat E, Rauvala H.](#) Related Articles, Links
Role of HB-GAM (heparin-binding growth-associated molecule) in proliferation arrest in cells of the developing rat limb and its expression in the differentiating neuromuscular system.
 Dev Biol. 1996 Aug 25;178(1):77-89.
 PMID: 8812110 [PubMed - indexed for MEDLINE]
-  **54:** [Lauri SE, Taira T, Kaila K, Rauvala H.](#) Related Articles, Links
Activity-induced enhancement of HB-GAM expression in rat hippocampal slices.
 Neuroreport. 1996 Jul 8;7(10):1670-4.
 PMID: 8904779 [PubMed - indexed for MEDLINE]
-  **55:** [Kinnunen T, Raulo E, Nolo R, Maccarana M, Lindahl U, Rauvala H.](#) Related Articles, Links
Neurite outgrowth in brain neurons induced by heparin-binding growth-associated molecule (HB-GAM) depends on the specific interaction of HB-GAM with heparan sulfate at the cell surface.
 J Biol Chem. 1996 Jan 26;271(4):2243-8.
 PMID: 8567685 [PubMed - indexed for MEDLINE]
-  **56:** [Daggett DF, Cohen MW, Stone D, Nikolics K, Rauvala H, Peng HB.](#) Related Articles, Links
The role of an agrin-growth factor interaction in ACh receptor clustering.
 Mol Cell Neurosci. 1996;8(4):272-85.
 PMID: 9026315 [PubMed - indexed for MEDLINE]
-  **57:** [Tsujimura A, Yasojima K, Kuboki Y, Suzuki A, Ueno N, Shiokawa K, Hashimoto-Gotoh T.](#) Related Articles, Links
Developmental and differential regulations in gene expression of Xenopus pleiotrophic factors-alpha and -beta.
 Biochem Biophys Res Commun. 1995 Sep 14;214(2):432-9.
 PMID: 7677748 [PubMed - indexed for MEDLINE]
-  **58:** [Nakagawara A, Milbrandt J, Muramatsu T, Deuel TF, Zhao H, Cnaan A, Brodeur GM.](#) Related Articles, Links
Differential expression of pleiotrophin and midkine in advanced neuroblastomas.
 Cancer Res. 1995 Apr 15;55(8):1792-7.
 PMID: 7712489 [PubMed - indexed for MEDLINE]
-  **59:** [Peng HB, Ali AA, Dai Z, Daggett DF, Raulo E, Rauvala H.](#) Related Articles, Links
The role of heparin-binding growth-associated molecule (HB-GAM) in the postsynaptic induction in cultured muscle cells.
 J Neurosci. 1995 Apr;15(4):3027-38.
 PMID: 7722643 [PubMed - indexed for MEDLINE]
-  **60:** [Garver RL Jr, Radford DM, Denis-Keller H, Wick MR, Milner PG.](#) Related Articles, Links
Midkine and pleiotrophin expression in normal and malignant breast tissue.
 Cancer. 1994 Sep 1;74(5):1584-90.
 PMID: 7520350 [PubMed - indexed for MEDLINE]
-  **61:** [Raulo E, Chemousov MA, Carey DJ, Nolo R, Rauvala H.](#) Related Articles, Links
Isolation of a neuronal cell surface receptor of heparin binding growth-associated molecule (HB-GAM). Identification as N-syndecan (syndecan-3).
 J Biol Chem. 1994 Apr 29;269(17):12999-3004.

PMID: 8175719 [PubMed - indexed for MEDLINE]

62: [Gieffers C, Engelhardt W, Brenzel G, Matsuishi T, Frey J.](#) Related Articles, Links



Receptor binding of osteoblast-specific factor 1 (OSF-1/HB-GAM) to human osteosarcoma cells promotes cell attachment.

Eur J Cell Biol. 1993 Dec;62(2):352-61.

PMID: 7925491 [PubMed - indexed for MEDLINE]

63: [Kuo MD, Huang SS, Huang JS.](#) Related Articles, Links



Characterization of heparin-binding growth-associated factor receptor on NIH 3T3 cells.

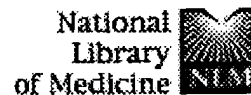
Biochem Biophys Res Commun. 1992 Jan 15;182(1):188-94.

PMID: 1731778 [PubMed - indexed for MEDLINE]

Display	Summary	Show:	500	Sort	Send to	Text
Items 1-63 of 63						One page.

[Write to the Help Desk](#)
[NCBI](#) | [NLM](#) | [NIH](#)
[Department of Health & Human Services](#)
[Freedom of Information Act](#) | [Disclaimer](#)

Apr 13 2004 06:53:40



Entrez PubMed Nucleotide Protein Genome Structure OMIM PMC Journals Books

Search PubMed for ALK AND receptor AND pleiotrophin

Limits Preview/Index History Clipboard Details

About Entrez

Display Summary Show: 500 Sort Send to Text

Items 1-5 of 5 One page.

Text Version

Entrez PubMed

- Overview
- Help | FAQ
- Tutorial
- New/Noteworthy
- E-Utilities

PubMed Services

- Journals Database
- MeSH Database
- Single Citation Matcher
- Batch Citation Matcher
- Clinical Queries
- LinkOut
- Cubby

Related Resources

- Order Documents
- NLM Gateway
- TOXNET
- Consumer Health
- Clinical Alerts
- ClinicalTrials.gov
- PubMed Central

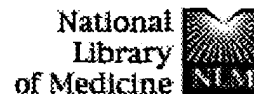
Privacy Policy

- 1: [Stoica GE, Kuo A, Powers C, Bowden ET, Sale EB, Riegel AT, Wellstein A.](#) Related Articles, Links
Midkine binds to anaplastic lymphoma kinase (ALK) and acts as a growth factor for different cell types.
 J Biol Chem. 2002 Sep 27;277(39):35990-8. Epub 2002 Jul 16.
 PMID: 12122009 [PubMed - indexed for MEDLINE]
- 2: [Bowden ET, Stoica GE, Wellstein A.](#) Related Articles, Links
Anti-apoptotic signaling of pleiotrophin through its receptor, anaplastic lymphoma kinase.
 J Biol Chem. 2002 Sep 27;277(39):35862-8. Epub 2002 Jul 09.
 PMID: 12107166 [PubMed - indexed for MEDLINE]
- 3: [Bernard-Pierrot J, Delbe J, Rouet V, Vigny M, Kerros ME, Caruelle D, Raulais D, Barritault D, Courty J, Milhiet PE.](#) Related Articles, Links
Dominant negative effectors of heparin affin regulatory peptide (HARP) angiogenic and transforming activities.
 J Biol Chem. 2002 Aug 30;277(35):32071-7. Epub 2002 Jun 17.
 PMID: 12070152 [PubMed - indexed for MEDLINE]
- 4: [Powers C, Aigner A, Stoica GE, McDonnell K, Wellstein A.](#) Related Articles, Links
Pleiotrophin signaling through anaplastic lymphoma kinase is rate-limiting for glioblastoma growth.
 J Biol Chem. 2002 Apr 19;277(16):14153-8. Epub 2002 Jan 23.
 PMID: 11809760 [PubMed - indexed for MEDLINE]
- 5: [Stoica GE, Kuo A, Aigner A, Sunitha J, Souttou B, Malerczyk C, Caughey DJ, Wen D, Karavanov A, Riegel AT, Wellstein A.](#) Related Articles, Links
Identification of anaplastic lymphoma kinase as a receptor for the growth factor pleiotrophin.
 J Biol Chem. 2001 May 18;276(20):16772-9. Epub 2001 Feb 08.
 PMID: 11278720 [PubMed - indexed for MEDLINE]

Display Summary Show: 500 Sort Send to Text

Items 1-5 of 5 One page.

Write to the Help Desk
 NCBI | NLM | NIH
 Department of Health & Human Services
 Freedom of Information Act | Disclaimer



Entrez PubMed Nucleotide Protein Genome Structure OMIM PMC Journals Books

Search PubMed for ALK AND pleiotrophin

Limits Preview/Index History Clipboard Details

About Entrez

Show:

Items 1-5 of 5

One page.

Text Version

Entrez PubMed

Overview
Help | FAQ
Tutorial
New/Noteworthy
E-Utilities

PubMed Services

Journals Database
MeSH Database
Single Citation Matcher
Batch Citation Matcher
Clinical Queries
LinkOut
Cubby

Related Resources

Order Documents
NLM Gateway
TOXNET
Consumer Health
Clinical Alerts
ClinicalTrials.gov
PubMed Central

Privacy Policy

1: [Stoica GE, Kuo A, Powers C, Bowden ET, Sale EB, Riegel AT, Wellstein A.](#) [Related Articles, Links](#)

Midkine binds to anaplastic lymphoma kinase (ALK) and acts as a growth factor for different cell types.
J Biol Chem. 2002 Sep 27;277(39):35990-8. Epub 2002 Jul 16.
PMID: 12122009 [PubMed - indexed for MEDLINE]

2: [Bowden ET, Stoica GE, Wellstein A.](#) [Related Articles, Links](#)

Anti-apoptotic signaling of pleiotrophin through its receptor, anaplastic lymphoma kinase.
J Biol Chem. 2002 Sep 27;277(39):35862-8. Epub 2002 Jul 09.
PMID: 12107166 [PubMed - indexed for MEDLINE]

3: [Bernard-Pierrot J, Delbe J, Rouet V, Vigny M, Kerros ME, Carielle D, Raulais D, Barritault D, Courty J, Milhiet PE.](#) [Related Articles, Links](#)

Dominant negative effectors of heparin affin regulatory peptide (HARP) angiogenic and transforming activities.
J Biol Chem. 2002 Aug 30;277(35):32071-7. Epub 2002 Jun 17.
PMID: 12070152 [PubMed - indexed for MEDLINE]

4: [Powers C, Aigner A, Stoica GE, McDonnell K, Wellstein A.](#) [Related Articles, Links](#)

Pleiotrophin signaling through anaplastic lymphoma kinase is rate-limiting for glioblastoma growth.
J Biol Chem. 2002 Apr 19;277(16):14153-8. Epub 2002 Jan 23.
PMID: 11809760 [PubMed - indexed for MEDLINE]

5: [Stoica GE, Kuo A, Aigner A, Sunitha I, Soutou B, Malerczyk C, Caughey DJ, Wen D, Karavanov A, Riegel AT, Wellstein A.](#) [Related Articles, Links](#)

Identification of anaplastic lymphoma kinase as a receptor for the growth factor pleiotrophin.
J Biol Chem. 2001 May 18;276(20):16772-9. Epub 2001 Feb 08.
PMID: 11278720 [PubMed - indexed for MEDLINE]

Show:

Items 1-5 of 5

One page.

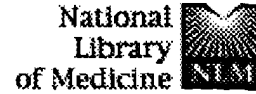
[Write to the Help Desk](#)

NCBI | NLM | NIH

Department of Health & Human Services

Freedom of Information Act | Disclaimer

Apr 13 2004 06:53:40



Entrez PubMed Nucleotide Protein Genome Structure OMIM FMC Journals Book

Search PubMed for LTK AND pleiotrophin Go Clear

Limits Preview/Index History Clipboard Details

About Entrez

No items found.

Text Version

Entrez PubMed

- Overview
- Help | FAQ
- Tutorial
- New/Noteworthy
- E-Utilities

PubMed Services

- Journals Database
- MeSH Database
- Single Citation Matcher
- Batch Citation Matcher
- Clinical Queries
- LinkOut
- Cubby

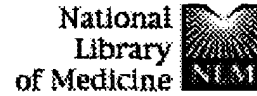
Related Resources

- Order Documents
- NLM Gateway
- TOXNET
- Consumer Health
- Clinical Alerts
- ClinicalTrials.gov
- PubMed Central

Privacy Policy

[Write to the Help Desk](#)
[NCBI | NLM | NIH](#)
[Department of Health & Human Services](#)
[Freedom of Information Act | Disclaimer](#)

Apr 13 2004 06:53:40



Entrez PubMed Nucleotide Protein Genome Structure OMIM PMC Journals Books

Search PubMed for P RTP AND pleiotrophin Go Clear

Limits Preview/Index History Clipboard Details

About Entrez

No items found.

Text Version

Entrez PubMed

- Overview
Help | FAQ
Tutorial
New/Noteworthy
E-Utilities

PubMed Services

- Journals Database
MeSH Database
Single Citation Matcher
Batch Citation Matcher
Clinical Queries
LinkOut
Cubby

Related Resources

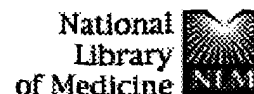
- Order Documents
NLM Gateway
TOXNET
Consumer Health
Clinical Alerts
ClinicalTrials.gov
PubMed Central

Privacy Policy

Write to the Help Desk

NCBI | NLM | NIH
Department of Health & Human Services
Freedom of Information Act | Disclaimer

Apr 13 2004 06:53:40



Entrez PubMed Nucleotide Protein Genome Structure OMIM FMC Journals Book

Search PubMed for pleiotrophin receptor AND apoptosis Go Clear

Limits Preview/Index History Clipboard Details

About Entrez

Display Summary Show: 20 Sort Send to Text

Items 1-3 of 3

One page.

Text Version

Entrez PubMed

Overview
Help | FAQ
Tutorial
New/Noteworthy
E-Utilities

PubMed Services

Journals Database
MeSH Database
Single Citation Matcher
Batch Citation Matcher
Clinical Queries
LinkOut
Cubby

Related Resources

Order Documents
NLM Gateway
TOXNET
Consumer Health
Clinical Alerts
ClinicalTrials.gov
PubMed Central

Privacy Policy

1: [Bowden ET, Stoica GE, Wellstein A.](#)

[Related Articles, Links](#)



Anti-apoptotic signaling of pleiotrophin through its receptor, anaplastic lymphoma kinase.

J Biol Chem. 2002 Sep 27;277(39):35862-8. Epub 2002 Jul 09.
PMID: 12107166 [PubMed - indexed for MEDLINE]

2: [Qin LX, Tang ZY.](#)

[Related Articles, Links](#)



The prognostic molecular markers in hepatocellular carcinoma.

World J Gastroenterol. 2002 Jun;8(3):385-92. Review.
PMID: 12046056 [PubMed - indexed for MEDLINE]

3: [Powers C, Aigner A, Stoica GE, McDonnell K, Wellstein A.](#)

[Related Articles, Links](#)



Pleiotrophin signaling through anaplastic lymphoma kinase is rate-limiting for glioblastoma growth.

J Biol Chem. 2002 Apr 19;277(16):14153-8. Epub 2002 Jan 23.
PMID: 11809760 [PubMed - indexed for MEDLINE]

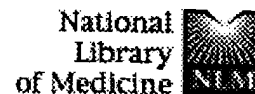
[Write to the Help Desk](#)

[NCBI](#) | [NLM](#) | [NIH](#)

[Department of Health & Human Services](#)

[Freedom of Information Act](#) | [Disclaimer](#)

Apr 13 2004 06:53:40



Entrez PubMed Nucleotide Protein Genome Structure OMIM PMC Journals Book

Search PubMed for pleiotrophin receptor AND angiogenic Go Clear

Limits Preview/Index History Clipboard Details

About Entrez

Display Summary Show: 20 Sort Send to Text

Text Version

Items 1-9 of 9

One page.

Entrez PubMed

Overview
Help | FAQ
Tutorial
New/Noteworthy
E-Utilities

PubMed Services


Journals Database
MeSH Database
Single Citation Matcher
Batch Citation Matcher
Clinical Queries
LinkOut
Cubby

Related Resources


Order Documents
NLM Gateway
TOXNET
Consumer Health
Clinical Alerts
ClinicalTrials.gov
PubMed Central

Privacy Policy

- 1: [Kadomatsu K, Muramatsu T.](#) Related Articles, Links
Midkine and pleiotrophin in neural development and cancer.
Cancer Lett. 2004 Feb 20;204(2):127-43.
PMID: 15013213 [PubMed - in process]
- 2: [Heroult M, Bernard-Pierrot I, Delbe J, Hamma-Kourbali Y, Katsoris P, Barritault D, Papadimitriou E, Plouet J, Courty J.](#) Related Articles, Links
Heparin affin regulatory peptide binds to vascular endothelial growth factor (VEGF) and inhibits VEGF-induced angiogenesis.
Oncogene. 2004 Mar 4;23(9):1745-53.
PMID: 15001987 [PubMed - indexed for MEDLINE]
- 3: [Stoica GE, Kuo A, Powers C, Bowden ET, Sale EB, Riegel AT, Wellstein A.](#) Related Articles, Links
Midkine binds to anaplastic lymphoma kinase (ALK) and acts as a growth factor for different cell types.
J Biol Chem. 2002 Sep 27;277(39):35990-8. Epub 2002 Jul 16.
PMID: 12122009 [PubMed - indexed for MEDLINE]
- 4: [Bernard-Pierrot I, Delbe J, Rouet V, Vigny M, Kerros ME, Caruelle D, Raulais D, Barritault D, Courty J, Milhiet PE.](#) Related Articles, Links
Dominant negative effectors of heparin affin regulatory peptide (HARP) angiogenic and transforming activities.
J Biol Chem. 2002 Aug 30;277(35):32071-7. Epub 2002 Jun 17.
PMID: 12070152 [PubMed - indexed for MEDLINE]
- 5: [Stoica GE, Kuo A, Aigner A, Smitha I, Souitou B, Malerczyk C, Caughey DJ, Wen D, Karavanov A, Riegel AT, Wellstein A.](#) Related Articles, Links
Identification of anaplastic lymphoma kinase as a receptor for the growth factor pleiotrophin.
J Biol Chem. 2001 May 18;276(20):16772-9. Epub 2001 Feb 08.
PMID: 11278720 [PubMed - indexed for MEDLINE]
- 6: [Bernard-Pierrot I, Delbe J, Caruelle D, Barritault D, Courty J, Milhiet PE.](#) Related Articles, Links
The lysine-rich C-terminal tail of heparin affin regulatory peptide is required for mitogenic and tumor formation activities.
J Biol Chem. 2001 Apr 13;276(15):12228-34. Epub 2001 Jan 09.
PMID: 11150308 [PubMed - indexed for MEDLINE]
- 7: [Cherrington JM, Strawn LM, Shawver LK.](#) Related Articles, Links
New paradigms for the treatment of cancer: the role of anti-angiogenesis agents.
Adv Cancer Res. 2000;79:1-38. Review.
PMID: 10818676 [PubMed - indexed for MEDLINE]
- 8: [Relf M, LeJeune S, Scott PA, Fox S, Smith K, Leek R, Moghaddam A, Whitehouse R, Bicknell R, Harris AL.](#) Related Articles, Links

 Expression of the angiogenic factors vascular endothelial cell growth factor, acidic and basic fibroblast growth factor, tumor growth factor beta-1, platelet-derived endothelial cell growth factor, placenta growth factor, and pleiotrophin in human primary breast cancer and its relation to angiogenesis. Cancer Res. 1997 Mar 1;57(5):963-9. PMID: 9041202 [PubMed - indexed for MEDLINE]

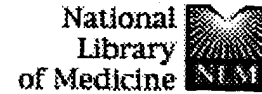
9: [Garver RI Jr](#), [Radford DM](#), [Donis-Keller H](#), [Wick MR](#), [Milner FG](#). [Related Articles](#), [Links](#)

 Midkine and pleiotrophin expression in normal and malignant breast tissue. Cancer. 1994 Sep 1;74(5):1584-90. PMID: 7520350 [PubMed - indexed for MEDLINE]

Items 1-9 of 9 One page.

[Write to the Help Desk](#)
[NCBI](#) | [NLM](#) | [NIH](#)
[Department of Health & Human Services](#)
[Freedom of Information Act](#) | [Disclaimer](#)

Apr 13 2004 06:53:46



Entrez PubMed Nucleotide Protein Genome Structure OMIM PMC Journals Book

Search PubMed for pleiotrophin receptor AND motogenic Go Clear

Limits Preview/Index History Clipboard Details

About Entrez

Display Summary Show: 20 Sort Send to Text

Text Version

1: Brockmann MA, Ulbricht U, Gruner K, Fillbrandt R, Westphal M, Lamszus K. Related Articles, Links

Glioblastoma and cerebral microvascular endothelial cell migration in response to tumor-associated growth factors. Neurosurgery. 2003 Jun;52(6):1391-9; discussion 1399. PMID: 12762884 [PubMed - indexed for MEDLINE]

Entrez PubMed Overview Help | FAQ Tutorial New/Noteworthy E-Utilities

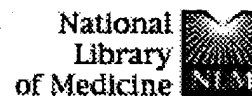
PubMed Services Journals Database MeSH Database Single Citation Matcher Batch Citation Matcher Clinical Queries LinkOut Cubby

Related Resources Order Documents NLM Gateway TOXNET Consumer Health Clinical Alerts ClinicalTrials.gov PubMed Central

Privacy Policy

Write to the Help Desk NCBI | NLM | NIH Department of Health & Human Services Freedom of Information Act | Disclaimer

Apr 13 2004 06:53:40



Entrez PubMed Nucleotide Protein Genome Structure OMIM PMC Journals Book

Search for

Limits Preview/Index History Clipboard Details

About Entrez

Show:

Text Version

Items 1-8 of 8

One page.

Entrez PubMed

Overview
Help | FAQ
Tutorial
New/Noteworthy
E-Utilities

PubMed Services

Journals Database
MeSH Database
Single Citation Matcher
Batch Citation Matcher
Clinical Queries
LinkOut
Cubby

Related Resources

Order Documents
NLM Gateway
TOXNET
Consumer Health
Clinical Alerts
ClinicalTrials.gov
PubMed Central

Privacy Policy

- 1: [Kadomatsu K, Muramatsu T.](#) [Related Articles, Links](#)
Midkine and pleiotrophin in neural development and cancer.
Cancer Lett. 2004 Feb 20;204(2):127-43.
PMID: 15013213 [PubMed - in process]
- 2: [Ulbricht U, Brockmann MA, Aigner A, Eckerich C, Muller S, Fillbrandt R, Westphal M, Lamszus K.](#) [Related Articles, Links](#)
Expression and function of the receptor protein tyrosine phosphatase zeta and its ligand pleiotrophin in human astrocytomas.
J Neuropathol Exp Neurol. 2003 Dec;62(12):1265-75.
PMID: 14692702 [PubMed - indexed for MEDLINE]
- 3: [Bernard-Pierrot I, Delbe J, Rouet V, Vigny M, Kerros ME, Caruelle D, Raulais D, Barritault D, Courty J, Milhiet PE.](#) [Related Articles, Links](#)
Dominant negative effectors of heparin affin regulatory peptide (HARP) angiogenic and transforming activities.
J Biol Chem. 2002 Aug 30;277(35):32071-7. Epub 2002 Jun 17.
PMID: 12070152 [PubMed - indexed for MEDLINE]
- 4: [Steica GE, Kuo A, Aigner A, Sunitha I, Souttou B, Malerczyk C, Caughey DJ, Wen D, Karavanov A, Riegel AT, Wellstein A.](#) [Related Articles, Links](#)
Identification of anaplastic lymphoma kinase as a receptor for the growth factor pleiotrophin.
J Biol Chem. 2001 May 18;276(20):16772-9. Epub 2001 Feb 08.
PMID: 11278720 [PubMed - indexed for MEDLINE]
- 5: [Bernard-Pierrot I, Delbe J, Caruelle D, Barritault D, Courty J, Milhiet PE.](#) [Related Articles, Links](#)
The lysine-rich C-terminal tail of heparin affin regulatory peptide is required for mitogenic and tumor formation activities.
J Biol Chem. 2001 Apr 13;276(15):12228-34. Epub 2001 Jan 09.
PMID: 11150308 [PubMed - indexed for MEDLINE]
- 6: [Ratovitski EA, Burrow CR.](#) [Related Articles, Links](#)
Midkine stimulates Wilms' tumor cell proliferation via its signaling receptor.
Cell Mol Biol (Noisy-le-grand). 1997 May;43(3):425-31.
PMID: 9193798 [PubMed - indexed for MEDLINE]
- 7: [Nakagawara A, Milbrandt J, Muramatsu T, Deuel TF, Zhao H, Cnaan A, Brodeur GM.](#) [Related Articles, Links](#)
Differential expression of pleiotrophin and midkine in advanced neuroblastomas.
Cancer Res. 1995 Apr 15;55(8):1792-7.
PMID: 7712489 [PubMed - indexed for MEDLINE]
- 8: [Raulo E, Chernousov MA, Carey DJ, Nolo R, Rauvala H.](#) [Related Articles, Links](#)
Isolation of a neuronal cell surface receptor of heparin binding growth-associated molecule (HB-GAM). Identification as N-syndecan (syndecan-3).

J Biol Chem. 1994 Apr 29;269(17):12999-3004.
PMID: 8175719 [PubMed - indexed for MEDLINE]

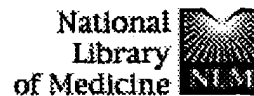
Display Summary Show: 20 Sort Send to Text

Items 1-8 of 8

One page.

[Write to the Help Desk](#)
[NCBI](#) | [NLM](#) | [NIH](#)
[Department of Health & Human Services](#)
[Freedom of Information Act](#) | [Disclaimer](#)

Apr 13 2004 06:53:40



Entrez PubMed Nucleotide Protein Genome Structure OMIM PMC Journals Book
 Search PubMed for pleiotrophin receptor AND proliferation Go Clear
 Limits Preview/Index History Clipboard Details

About Entrez

Text Version

Entrez PubMed

Overview
 Help | FAQ
 Tutorial
 New/Noteworthy
 E-Utilities

PubMed Services

Journals Database
 MeSH Database
 Single Citation Matcher
 Batch Citation Matcher
 Clinical Queries
 LinkOut
 Cubby

Related Resources

Order Documents
 NLM Gateway
 TOXNET
 Consumer Health
 Clinical Alerts
 ClinicalTrials.gov
 PubMed Central

Privacy Policy

Display Summary Show: 20 Sort Send to Text
 Items 1-9 of 9 One page

1: [Heroult M, Bernard-Pierrot I, Delbe J, Hamma-Kourbali Y, Katsoris P, Barritault D, Papadimitriou E, Plouet J, Courty J.](#) Related Articles, Links

Heparin affin regulatory peptide binds to vascular endothelial growth factor (VEGF) and inhibits VEGF-induced angiogenesis.
 Oncogene. 2004 Mar 4;23(9):1745-53.
 PMID: 15001987 [PubMed - indexed for MEDLINE]

2: [Fujikawa A, Shirasaka D, Yamamoto S, Ota H, Yahiro K, Fukada M, Shintani T, Wada A, Aoyama N, Hirayama T, Fukamachi H, Noda M.](#) Related Articles, Links

Mice deficient in protein tyrosine phosphatase receptor type Z are resistant to gastric ulcer induction by VacA of Helicobacter pylori.
 Nat Genet. 2003 Mar;33(3):375-81. Epub 2003 Feb 24. Erratum in: Nat Genet. 2003 Apr;33(4):533.
 PMID: 12598897 [PubMed - indexed for MEDLINE]

3: [Stoica GE, Kuo A, Powers C, Bowden ET, Sale EB, Riegel AT, Wellstein A.](#) Related Articles, Links

Midkine binds to anaplastic lymphoma kinase (ALK) and acts as a growth factor for different cell types.
 J Biol Chem. 2002 Sep 27;277(39):35990-8. Epub 2002 Jul 16.
 PMID: 12122009 [PubMed - indexed for MEDLINE]

4: [Qin LX, Tang ZY.](#) Related Articles, Links

The prognostic molecular markers in hepatocellular carcinoma.
 World J Gastroenterol. 2002 Jun;8(3):385-92. Review.
 PMID: 12046056 [PubMed - indexed for MEDLINE]

5: [Liu X, Mashour GA, Webster HF, Kurtz A.](#) Related Articles, Links

Basic FGF and FGF receptor 1 are expressed in microglia during experimental autoimmune encephalomyelitis: temporally distinct expression of midkine and pleiotrophin.
 Glia. 1998 Dec;24(4):390-7.
 PMID: 9814819 [PubMed - indexed for MEDLINE]

6: [Ratovitski EA, Kotzbauer PT, Milbrandt J, Lowenstein CJ, Burrow CR.](#) Related Articles, Links

Midkine induces tumor cell proliferation and binds to a high affinity signaling receptor associated with JAK tyrosine kinases.
 J Biol Chem. 1998 Feb 6;273(6):3654-60.
 PMID: 9452495 [PubMed - indexed for MEDLINE]

7: [Czubayko F, Downing SG, Hsieh SS, Goldstein DJ, Lu PY, Trapnell BC, Wellstein A.](#) Related Articles, Links

Adenovirus-mediated transduction of ribozymes abrogates HER-2/neu and pleiotrophin expression and inhibits tumor cell proliferation.
 Gene Ther. 1997 Sep;4(9):943-9.
 PMID: 9349431 [PubMed - indexed for MEDLINE]

8: [Ratovitski EA, Burrow CR.](#)

[Related Articles](#), [Links](#)



Midkine stimulates Wilms' tumor cell proliferation via its signaling receptor.
Cell Mol Biol (Noisy-le-grand). 1997 May;43(3):425-31.
PMID: 9193798 [PubMed - indexed for MEDLINE]

9: [Szabat E, Rauvala H.](#)

[Related Articles](#), [Links](#)



Role of HB-GAM (heparin-binding growth-associated molecule) in proliferation arrest in cells of the developing rat limb and its expression in the differentiating neuromuscular system.
Dev Biol. 1996 Aug 25;178(1):77-89.
PMID: 8812110 [PubMed - indexed for MEDLINE]

Display	Summary	Show:	20	Sort	Send to	Text
---------	---------	-------	----	------	---------	------

Items 1-9 of 9 One page.

[Write to the Help Desk](#)
[NCBI](#) | [NLM](#) | [NIH](#)
 Department of Health & Human Services
[Freedom of Information Act](#) | [Disclaimer](#)

Apr 13 2004 06:53:46

Connecting via winsock to STN
Welcome to STN International! Enter x:x
* * * * * Welcome to STN International * * * * *
* * * * * STN Columbus * * * * *

FILE 'HOME' ENTERED AT 13:21:08 ON 16 APR 2004

=> file BIOSCIENCE

FILE 'ADISCTI' ENTERED AT 13:21:21 ON 16 APR 2004
COPYRIGHT (C) 2004 Adis Data Information BV

FILE 'ADISINSIGHT' ENTERED AT 13:21:21 ON 16 APR 2004
COPYRIGHT (C) 2004 Adis Data Information BV

FILE 'ADISNEWS' ENTERED AT 13:21:21 ON 16 APR 2004
COPYRIGHT (C) 2004 Adis Data Information BV

FILE 'AGRICOLA' ENTERED AT 13:21:21 ON 16 APR 2004

FILE 'ANABSTR' ENTERED AT 13:21:21 ON 16 APR 2004
COPYRIGHT (C) 2004 THE ROYAL SOCIETY OF CHEMISTRY (RSC)

FILE 'AQUASCI' ENTERED AT 13:21:21 ON 16 APR 2004
COPYRIGHT 2004 FAO (On behalf of the ASFA Advisory Board). All rights reserved.

FILE 'BIOBUSINESS' ENTERED AT 13:21:21 ON 16 APR 2004
COPYRIGHT (C) 2004 Biological Abstracts, Inc. (BIOSIS)

FILE 'BIOCOMMERCE' ENTERED AT 13:21:21 ON 16 APR 2004
COPYRIGHT (C) 2004 BioCommerce Data Ltd. Richmond Surrey, United Kingdom. All rights reserved

FILE 'BIOSIS' ENTERED AT 13:21:21 ON 16 APR 2004
COPYRIGHT (C) 2004 BIOLOGICAL ABSTRACTS INC.(R)

FILE 'BIOTECHABS' ACCESS NOT AUTHORIZED

FILE 'BIOTECHDS' ENTERED AT 13:21:21 ON 16 APR 2004
COPYRIGHT (C) 2004 THOMSON DERWENT AND INSTITUTE FOR SCIENTIFIC INFORMATION

FILE 'BIOTECHNO' ENTERED AT 13:21:21 ON 16 APR 2004
COPYRIGHT (C) 2004 Elsevier Science B.V., Amsterdam. All rights reserved.

FILE 'CABA' ENTERED AT 13:21:21 ON 16 APR 2004
COPYRIGHT (C) 2004 CAB INTERNATIONAL (CABI)

FILE 'CANCERLIT' ENTERED AT 13:21:21 ON 16 APR 2004

FILE 'CAPLUS' ENTERED AT 13:21:21 ON 16 APR 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'CEABA-VTB' ENTERED AT 13:21:21 ON 16 APR 2004
COPYRIGHT (c) 2004 DECHEMA eV

FILE 'CEN' ENTERED AT 13:21:21 ON 16 APR 2004
COPYRIGHT (C) 2004 American Chemical Society (ACS)

FILE 'CIN' ENTERED AT 13:21:21 ON 16 APR 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2004 American Chemical Society (ACS)

FILE 'CONFSCI' ENTERED AT 13:21:21 ON 16 APR 2004
COPYRIGHT (C) 2004 Cambridge Scientific Abstracts (CSA)

FILE 'CROPB' ENTERED AT 13:21:21 ON 16 APR 2004
COPYRIGHT (C) 2004 THOMSON DERWENT

FILE 'CROPU' ENTERED AT 13:21:21 ON 16 APR 2004
COPYRIGHT (C) 2004 THOMSON DERWENT

FILE 'DISSABS' ENTERED AT 13:21:21 ON 16 APR 2004

COPYRIGHT (C) 2004 ProQuest Information and Learning Company; All Rights Reserved.

FILE 'DDFB' ACCESS NOT AUTHORIZED

FILE 'DDFU' ACCESS NOT AUTHORIZED

FILE 'DGENE' ENTERED AT 13:21:21 ON 16 APR 2004
COPYRIGHT (C) 2004 THOMSON DERWENT

FILE 'DRUGB' ENTERED AT 13:21:21 ON 16 APR 2004
COPYRIGHT (C) 2004 THOMSON DERWENT

FILE 'DRUGMONOG2' ENTERED AT 13:21:21 ON 16 APR 2004
COPYRIGHT (C) 2004 IMSWORLD Publications Ltd

FILE 'IMSDRUGNEWS' ENTERED AT 13:21:21 ON 16 APR 2004
COPYRIGHT (C) 2004 IMSWORLD Publications Ltd

FILE 'DRUGU' ENTERED AT 13:21:21 ON 16 APR 2004
COPYRIGHT (C) 2004 THOMSON DERWENT

FILE 'IMSRESEARCH' ENTERED AT 13:21:21 ON 16 APR 2004
COPYRIGHT (C) 2004 IMSWORLD Publications Ltd

FILE 'EMBAL' ENTERED AT 13:21:21 ON 16 APR 2004
COPYRIGHT (C) 2004 Elsevier Inc. All rights reserved.

FILE 'EMBASE' ENTERED AT 13:21:21 ON 16 APR 2004
COPYRIGHT (C) 2004 Elsevier Inc. All rights reserved.

FILE 'ESBIOBASE' ENTERED AT 13:21:21 ON 16 APR 2004
COPYRIGHT (C) 2004 Elsevier Science B.V., Amsterdam. All rights reserved.

FILE 'FEDRIP' ENTERED AT 13:21:21 ON 16 APR 2004

FILE 'FOMAD' ENTERED AT 13:21:21 ON 16 APR 2004
COPYRIGHT (C) 2004 Leatherhead Food Research Association

FILE 'FOREGE' ENTERED AT 13:21:21 ON 16 APR 2004
COPYRIGHT (C) 2004 Leatherhead Food Research Association

FILE 'FROSTI' ENTERED AT 13:21:21 ON 16 APR 2004
COPYRIGHT (C) 2004 Leatherhead Food Research Association

FILE 'FSTA' ENTERED AT 13:21:21 ON 16 APR 2004
COPYRIGHT (C) 2004 International Food Information Service

FILE 'GENBANK' ENTERED AT 13:21:21 ON 16 APR 2004

FILE 'HEALSAFE' ENTERED AT 13:21:21 ON 16 APR 2004
COPYRIGHT (C) 2004 Cambridge Scientific Abstracts (CSA)

FILE 'IFIPAT' ENTERED AT 13:21:21 ON 16 APR 2004
COPYRIGHT (C) 2004 IFI CLAIMS(R) Patent Services (IFI)

FILE 'IMSPRODUCT' ENTERED AT 13:21:21 ON 16 APR 2004
COPYRIGHT (C) 2004 IMSWORLD Publications Ltd

FILE 'JICST-EPLUS' ENTERED AT 13:21:21 ON 16 APR 2004
COPYRIGHT (C) 2004 Japan Science and Technology Agency (JST)

FILE 'KOSMET' ENTERED AT 13:21:21 ON 16 APR 2004
COPYRIGHT (C) 2004 International Federation of the Societies of Cosmetics Chemists

FILE 'LIFESCI' ENTERED AT 13:21:21 ON 16 APR 2004
COPYRIGHT (C) 2004 Cambridge Scientific Abstracts (CSA)

FILE 'MEDICONF' ENTERED AT 13:21:21 ON 16 APR 2004
COPYRIGHT (C) 2004 FAIRBASE Datenbank GmbH, Hannover, Germany

FILE 'MEDLINE' ENTERED AT 13:21:21 ON 16 APR 2004

FILE 'NIOSHTIC' ENTERED AT 13:21:21 ON 16 APR 2004
COPYRIGHT (C) 2004 U.S. Secretary of Commerce on Behalf of the U.S. Government

FILE 'NTIS' ENTERED AT 13:21:21 ON 16 APR 2004

Compiled and distributed by the NTIS, U.S. Department of Commerce.
It contains copyrighted material.
All rights reserved. (2004)

FILE 'NUTRACEUT' ENTERED AT 13:21:21 ON 16 APR 2004
Copyright 2004 (c) MARKETLETTER Publications Ltd. All rights reserved.

FILE 'OCEAN' ENTERED AT 13:21:21 ON 16 APR 2004
COPYRIGHT (C) 2004 Cambridge Scientific Abstracts (CSA)

FILE 'PASCAL' ENTERED AT 13:21:21 ON 16 APR 2004
Any reproduction or dissemination in part or in full,
by means of any process and on any support whatsoever
is prohibited without the prior written agreement of INIST-CNRS.
COPYRIGHT (C) 2004 INIST-CNRS. All rights reserved.

FILE 'PCTGEN' ENTERED AT 13:21:21 ON 16 APR 2004
COPYRIGHT (C) 2004 WIPO

FILE 'PHAR' ENTERED AT 13:21:21 ON 16 APR 2004
COPYRIGHT (C) 2004 PJB Publications Ltd. (PJB)

FILE 'PHARMAML' ENTERED AT 13:21:21 ON 16 APR 2004
Copyright 2004 (c) MARKETLETTER Publications Ltd. All rights reserved.

FILE 'PHIC' ENTERED AT 13:21:21 ON 16 APR 2004
COPYRIGHT (C) 2004 PJB Publications Ltd. (PJB)

FILE 'PHIN' ENTERED AT 13:21:21 ON 16 APR 2004
COPYRIGHT (C) 2004 PJB Publications Ltd. (PJB)

FILE 'PROMT' ENTERED AT 13:21:21 ON 16 APR 2004
COPYRIGHT (C) 2004 Gale Group. All rights reserved.

FILE 'RDISCLOSURE' ENTERED AT 13:21:21 ON 16 APR 2004
COPYRIGHT (C) 2004 Kenneth Mason Publications Ltd.

FILE 'SCISEARCH' ENTERED AT 13:21:21 ON 16 APR 2004
COPYRIGHT 2004 THOMSON ISI

FILE 'SYNTHLINE' ENTERED AT 13:21:21 ON 16 APR 2004
COPYRIGHT (C) 2004 Prous Science

FILE 'TOXCENTER' ENTERED AT 13:21:21 ON 16 APR 2004
COPYRIGHT (C) 2004 ACS

FILE 'USPATFULL' ENTERED AT 13:21:21 ON 16 APR 2004
CA INDEXING COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'USPAT2' ENTERED AT 13:21:21 ON 16 APR 2004
CA INDEXING COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'VETB' ENTERED AT 13:21:21 ON 16 APR 2004
COPYRIGHT (C) 2004 THOMSON DERWENT

FILE 'VETU' ENTERED AT 13:21:21 ON 16 APR 2004
COPYRIGHT (C) 2004 THOMSON DERWENT

FILE 'WPIDS' ENTERED AT 13:21:21 ON 16 APR 2004
COPYRIGHT (C) 2004 THOMSON DERWENT

FILE 'WPINDEX' ACCESS NOT AUTHORIZED

=> s pleiotrophin
59 FILES SEARCHED...
L1 2992 PLEIOTROPHIN

=> DUP REM L1
DUPLICATE IS NOT AVAILABLE IN 'ADISINSIGHT, ADISNEWS, BIOCOMMERCE, DGENE,
DRUGMONOG2, IMSRESEARCH, FEDRIP, FOREGE, GENBANK, IMSPRODUCT, KOSMET,
MEDICONF, NUTRACEUT, PCTGEN, PHAR, PHARMAML, RDISCLOSURE, SYNTHLINE'.
ANSWERS FROM THESE FILES WILL BE CONSIDERED UNIQUE
PROCESSING IS APPROXIMATELY 33% COMPLETE FOR L1
PROCESSING IS APPROXIMATELY 88% COMPLETE FOR L1
PROCESSING COMPLETED FOR L1
L2 1460 DUP REM L1 (1532 DUPLICATES REMOVED)

=> S L2 AND receptor
20 FILES SEARCHED...
36 FILES SEARCHED...
58 FILES SEARCHED...
L3 438 L2 AND RECEPTOR

=> S pleiotrophin receptor
30 FILES SEARCHED...
L4 46 PLEIOTROPHIN RECEPTOR

=> DUP REM L4
DUPLICATE IS NOT AVAILABLE IN 'ADISINSIGHT, ADISNEWS, BIOCORDER, DGENE,
DRUGMONOG2, IMSRESEARCH, FEDRIP, FOREGE, GENBANK, IMSPRODUCT, KOSMET,
MEDICONF, NUTRACEUT, PCTGEN, PHAR, PHARMAML, RDISCLOSURE, SYNTHLINE'.
ANSWERS FROM THESE FILES WILL BE CONSIDERED UNIQUE
PROCESSING COMPLETED FOR L4
L5 42 DUP REM L4 (4 DUPLICATES REMOVED)

=> D L5 1-42

L5 ANSWER 1 OF 42 DISSABS COPYRIGHT (C) 2004 ProQuest Information and
Learning Company; All Rights Reserved on STN
AN 2003:57834 DISSABS Order Number: AAI3085389
TI Pleiotrophin signaling through PTNR in glioblastoma multiforme
AU Powers, Ciaran James [Ph.D.]; Wellstein, Anton [advisor]
CS Georgetown University Medical Center (0544)
SO Dissertation Abstracts International, (2003) Vol. 64, No. 3B, p. 1192.
Order No.: AAI3085389. 107 pages.
DT Dissertation
FS DAI
LA English
ED Entered STN: 20031201
Last Updated on STN: 20031201

L5 ANSWER 2 OF 42 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:801430 CAPLUS
DN 139:394036
TI A role for receptor tyrosine phosphatase.zeta. in glioma cell migration
AU Mueller, Sabine; Kunkel, Philip; Lamszus, Katrin; Ulbricht, Ulrike;
Lorente, Gustavo Angel; Nelson, April Michelle; von Schack, David; Chin,
Daniel J.; Lohr, Scott Curtis; Westphal, Manfred; Melcher, Thorsten
CS AGY Therapeutics, Inc., South San Francisco, CA, 94080, USA
SO Oncogene (2003), 22(43), 6661-6668
CODEN: ONCNES; ISSN: 0950-9232
PB Nature Publishing Group
DT Journal
LA English

RE.CNT 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 3 OF 42 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
AN 2003:474893 BIOSIS
DN PREV200300474893
TI ***Pleiotrophin*** - ***receptor*** expression promotes pancreatic
cancer cell growth and may contribute to neuronal tumor invasion.
AU Flachmann, Sabine [Reprint Author]; Powers, Ciaran [Reprint Author];
Wellstein, Anton [Reprint Author]; Juhl, Hartmut [Reprint Author]
CS Lombardi Cancer Center, Georgetown University, Washington, DC, USA
SO Proceedings of the American Association for Cancer Research Annual
Meeting, (July 2003) Vol. 44, pp. 246. print.
Meeting Info.: 94th Annual Meeting of the American Association for Cancer
Research. Washington, DC, USA. July 11-14, 2003.
ISSN: 0197-016X.
DT Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
LA English
ED Entered STN: 15 Oct 2003
Last Updated on STN: 15 Oct 2003

L5 ANSWER 4 OF 42 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:482085 CAPLUS
DN 140:195496
TI Technical advantage and limitation of phage display systems in protein
engineering and proteomics research
AU Yoshimura, Toru

CS Institute for Chemical Research, Kyoto University, Uji-shi, 611, Japan
SO Kagaku Furontia (2003), 9(Konbinatoriaru Baioenjiniaringu), 99-103
CODEN: KFAUA3
PB Kagaku Dojin
DT Journal; General Review
LA Japanese

L5 ANSWER 5 OF 42 IFIPAT COPYRIGHT 2004 IFI on STN DUPLICATE 1

AN 10091205 IFIPAT;IFIUDB;IFICDB

TI PLEIOTROPHIN GROWTH FACTOR RECEPTOR FOR THE TREATMENT OF PROLIFERATIVE,
VASCULAR AND NEUROLOGICAL DISORDERS; COMPLEX OF A PLEIOTROPHIN PROTEIN
AND A ***PLEIOTROPHIN*** - ***RECEPTOR*** PROTEIN

IN Wellstein Anton

PA Unassigned Or Assigned To Individual (68000)

PI US 2002034768 A1 20020321

AI US 2001-880097 20010614

PRAI US 2000-211491P 20000614 (Provisional)

FI US 2002034768 20020321

DT Utility; Patent Application - First Publication

FS CHEMICAL

APPLICATION

CLMN 68

GI 9 Figure(s).

FIG. 1 (a) Schematic of ALK gene showing factor binding sites. (b) Binding of the PTN to recombinant ECD of ALK. (c) SELDI analysis of PTN-ligand binding. (d) SELDI analysis of conditioned media, initial PTN binding to ECD, and completed PTN binding to ECD.

FIG. 2 (a) Competition of PTN binding to 32D/ALK-transfected cells, and (b) saturation binding of PTN to 32D/ALK and 32D/ control cells.

FIG. 3 (a) SW-13 or SW-13/ALK cells stimulated with PTN and immunoprecipitated with anti-PY, anti-ALK, or anti-IRS-1 antibodies. (b) SW-13/ALK cells stimulated with PTN, ECD or anti-PTN and immunoprecipitated with anti-PY or WB anti-PTN. (c) PTN stimulation of SW-13/ALK cells immunoprecipitated with anti-PY.

FIG. 4 Affect of ALK overexpression on PTN-stimulated growth.

FIG. 5 (a-d) ALK expression in human GBM tissue and cell lines. (e)

Detection of ALK mRNA in various cell lines by RNase protection.

FIG. 6 (a-c) Pleiotrophin-induced AKT phosphorylation in U87MG cells.

FIG. 7 (a) Autoradiogram and (b) quantitation by phosphoimager analysis of ALK mRNA. (c) Dose response of pleiotrophin, and (d) PDGF BB on phosphoAkt/Akt. (e) Comparison of the effect of PTN as a function of ALK levels in different cell lines.

FIG. 8 Xenograft tumor growth showing (a) size and (b) relative ALK/GAPDH as a function of time after tumor cell inoculation. (c) Mice survival curves from panel (a).

FIG. 9 Analysis of mitosis and apoptosis in tumor xenografts using (a) a high power (400 X) H & E (left column) and TUNEL (right column) stained sections from size-matched pRC/CMV (upper row) and Rz1-2 (lower row) xenograft tumors. (b) Number of mitotic figures and TUNEL positive cells as a function of relative ALK levels.

L5 ANSWER 6 OF 42 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN

AN 2002:571627 BIOSIS

DN PREV200200571627

TI Anti-apoptotic signaling of pleiotrophin through its receptor, anaplastic lymphoma kinase.

AU Bowden, Emma T.; Stoica, Gerald E.; Wellstein, Anton [Reprint author]

CS Dept. of Oncology, Lombardi Cancer Center, Medical School, Georgetown University, 3970 Reservoir Rd., NW, Research Bldg. E311, Washington, DC, 20007-2197, USA

wellstea@georgetown.edu

SO Journal of Biological Chemistry, (September 27, 2002) Vol. 277, No. 39, pp. 35862-35868. print.

CODEN: JBCHA3. ISSN: 0021-9258.

DT Article

LA English

ED Entered STN: 7 Nov 2002

Last Updated on STN: 7 Nov 2002

L5 ANSWER 7 OF 42 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2002:810384 CAPLUS

DN 138:131531

TI Effects of targeted overexpression of pleiotrophin on postnatal bone development

AU Tare, Rahul S.; Oreffo, Richard O. C.; Sato, Kenzo; Rauvala, Heikki; Clarke, Nicholas M. P.; Roach, Helmutrud I.

CS Bone & Joint Research Group, University Orthopaedics, University of
Southampton, UK
SO Biochemical and Biophysical Research Communications (2002), 298(3),
324-332
CODEN: BBRC9; ISSN: 0006-291X
PB Elsevier Science
DT Journal
LA English
RE.CNT 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 8 OF 42 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN
AN 2002-09978 BIOTECHDS
TI New pleiotrophin growth factor receptor proteins and polynucleotides,
useful for treating or preventing proliferative (e.g., cancer), vascular
and neurological disorders;
recombinant protein gene, vector expression in host cell, antibody,
hybridoma cell culture, sense and antisense molecule useful in disease
gene therapy and drug screening
AU WELLSTEIN A
PA UNIV GEORGETOWN MEDICAL CENT
PI WO 2001096394 20 Dec 2001
AI WO 2000-US18938 14 Jun 2000
PRAI US 2000-211491 14 Jun 2000
DT Patent
LA English
OS WPI: 2002-179508 [23]

L5 ANSWER 9 OF 42 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2001:395102 CAPLUS
DN 135:102875
TI Identification of anaplastic lymphoma kinase as a receptor for the growth
factor pleiotrophin
AU Stoica, Gerald E.; Kuo, Angera; Aigner, Achim; Sunitha, Iruvanti; Souttou,
Boussad; Malerczyk, Claudius; Caughey, Dana J.; Wen, Duanzhi; Karavanov,
Alex; Riegel, Anna T.; Wellstein, Anton
CS Lombardi Cancer Center, Georgetown University, Washington, DC, 20007, USA
SO Journal of Biological Chemistry (2001), 276(20), 16772-16779
CODEN: JBCHA3; ISSN: 0021-9258
PB American Society for Biochemistry and Molecular Biology
DT Journal
LA English
RE.CNT 49 THERE ARE 49 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 10 OF 42 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
AN 2002:69301 BIOSIS
DN PREV200200069301
TI Characterization of pleiotrophin signal transduction through a receptor
tyrosine kinase.
AU Kuo, Angera H. [Reprint author]; Stoica, Gerald E. [Reprint author];
Powers, Ciaran [Reprint author]; Bowden, Emma [Reprint author]; Riegel,
Anna T. [Reprint author]; Wellstein, Anton [Reprint author]
CS Lombardi Cancer Center, Georgetown University, Washington, DC, USA
SO Proceedings of the American Association for Cancer Research Annual
Meeting, (March, 2001) Vol. 42, pp. 955. print.
Meeting Info.: 92nd Annual Meeting of the American Association for Cancer
Research. New Orleans, LA, USA. March 24-28, 2001.
ISSN: 0197-016X.
DT Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
LA English
ED Entered STN: 16 Jan 2002
Last Updated on STN: 25 Feb 2002

L5 ANSWER 11 OF 42 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
AN 2001:452994 BIOSIS
DN PREV200100452994
TI Pleiotrophin binds and activates a receptor tyrosine kinase.
AU Stoica, Gerald E. [Reprint author]; Aigner, Achim [Reprint author];
Powers, Ciaran [Reprint author]; List, Heinz-Joachim [Reprint author];
Kuo, Angera [Reprint author]; Bowden, Emma T. [Reprint author]; Riegel,
Anna T. [Reprint author]; Wellstein, Anton [Reprint author]
CS Lombardi Cancer Center, Georgetown University, Washington, DC, USA
SO Proceedings of the American Association for Cancer Research Annual
Meeting, (March, 2001) Vol. 42, pp. 434. print.

Meeting Info.: 92nd Annual Meeting of the American Association for Cancer Research. New Orleans, LA, USA. March 24-28, 2001. American Association for Cancer Research.

ISSN: 0197-016X.

DT Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
LA English
ED Entered STN: 26 Sep 2001
Last Updated on STN: 22 Feb 2002

L5 ANSWER 12 OF 42 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2000:335533 CAPLUS

DN 133:1477

TI Induction of cell differentiation in vitro using genes for growth or differentiation factors and use of the cells in the treatment of disease

IN Sedlacek, Hans-harald; Havemann, Klaus; Muller, Rolf

PA Aventis Pharma Deutschland GmbH, Germany

SO PCT Int. Appl., 39 pp.

CODEN: PIXXD2

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000028010	A2	20000518	WO 1999-EP7902	19991019
	WO 2000028010	A3	20000727		
	W:	AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
	DE 19850986	A1	20000525	DE 1998-19850986	19981105
	EP 1127109	A2	20010829	EP 1999-953880	19991019
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO			
	JP 2002529080	T2	20020910	JP 2000-581177	19991019
PRAI	DE 1998-19850986	A	19981105		
	WO 1999-EP7902	W	19991019		

L5 ANSWER 13 OF 42 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2000:175824 CAPLUS

DN 132:217982

TI Stimulation of angiogenesis via enhanced endothelial expression of chimeric heparan sulfate-binding proteins

IN Simons, Michael; Volk, Rudiger; Horowitz, Arie

PA Beth Israel Deaconess Medical Center, USA

SO PCT Int. Appl., 72 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000014103	A1	20000316	WO 1999-US18865	19990818
	W:	AU, CA, JP			
	RW:	AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE			
	CA 2346430	AA	20000316	CA 1999-2346430	19990818
	AU 9956794	A1	20000327	AU 1999-56794	19990818
	EP 1112283	A1	20010704	EP 1999-943760	19990818
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI			
	US 2004013653	A1	20040122	US 2003-352839	20030128
PRAI	US 1998-145916	A	19980902		
	WO 1999-US18865	W	19990818		

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD

ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 14 OF 42 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2000:202194 CAPLUS

DN 132:344776

TI Pleiotrophin signals increased tyrosine phosphorylation of .beta.-catenin

through inactivation of the intrinsic catalytic activity of the receptor-type protein tyrosine phosphatase .beta./zeta.

AU Meng, Kung; Rodriguez-Pena, A.; Dimitrov, Todor; Chen, Wen; Yamin, Moshe; Noda, Masaharu; Deuel, Thomas F.
CS Division of Growth Regulation, Department of Medicine, Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA, 02215, USA
SO Proceedings of the National Academy of Sciences of the United States of America (2000), 97(6), 2603-2608
CODEN: PNASA6; ISSN: 0027-8424
PB National Academy of Sciences
DT Journal
LA English
RE.CNT 48 THERE ARE 48 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 15 OF 42 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1999:795994 CAPLUS
DN 132:31744
TI Gene probes used for genetic profiling in healthcare screening and planning
IN Roberts, Gareth Wyn
PA Genostic Pharma Ltd., UK
SO PCT Int. Appl., 745 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9964627	A2	19991216	WO 1999-GB1780	19990604
	W:	AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
PRAI	GB 1998-12099	A	19980606		
	GB 1998-13291	A	19980620		
	GB 1998-13611	A	19980624		
	GB 1998-13835	A	19980627		
	GB 1998-14110	A	19980701		
	GB 1998-14580	A	19980707		
	GB 1998-15438	A	19980716		
	GB 1998-15574	A	19980718		
	GB 1998-15576	A	19980718		
	GB 1998-16085	A	19980724		
	GB 1998-16086	A	19980724		
	GB 1998-16921	A	19980805		
	GB 1998-17097	A	19980807		
	GB 1998-17200	A	19980808		
	GB 1998-17632	A	19980814		
	GB 1998-17943	A	19980819		

L5 ANSWER 16 OF 42 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1999:795993 CAPLUS
DN 132:31743
TI Gene probes used for genetic profiling in healthcare screening and planning
IN Roberts, Gareth Wyn
PA Genostic Pharma Limited, UK
SO PCT Int. Appl., 149 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9964626	A2	19991216	WO 1999-GB1779	19990604
	W:	AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ,			

MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK,
ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG,
CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

CA 2330929 AA 19991216 CA 1999-2330929 19990604
AU 9941586 A1 19991230 AU 1999-41586 19990604
AU 766544 B2 20031016
AU 9941587 A1 19991230 AU 1999-41587 19990604
GB 2339200 A1 20000119 GB 1999-12914 19990604
GB 2339200 B2 20010912
EP 1084273 A1 20010321 EP 1999-925207 19990604

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
IE, FI

JP 2003528564 T2 20030930 JP 2000-553616 19990604
US 2003198970 A1 20031023 US 2002-206568 20020729
PRAI GB 1998-12098 A 19980606
GB 1998-28289 A 19981223
GB 1998-16086 A 19980724
GB 1998-16921 A 19980805
GB 1998-17097 A 19980807
GB 1998-17200 A 19980808
GB 1998-17632 A 19980814
GB 1998-17943 A 19980819
US 1999-325123 B1 19990603
WO 1999-GB1779 W 19990604

L5 ANSWER 17 OF 42 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1999:594970 CAPLUS
DN 131:223470

TI In vitro formation of congophilic Maltese-cross amyloid plaques to
identify anti-plaque therapeutics for the treatment of Alzheimer's and
prion diseases

IN Castillo, Gerardo; Snow, Alan D.

PA University of Washington, USA

SO PCT Int. Appl., 90 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9945947	A1	19990916	WO 1999-US5438	19990312
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2323090	AA	19990916	CA 1999-2323090	19990312
AU 9930838	A1	19990927	AU 1999-30838	19990312
EP 1064013	A1	20010103	EP 1999-912468	19990312
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, PT, IE, FI, RO				
JP 2002506043	T2	20020226	JP 2000-535360	19990312
US 2002168753	A1	20021114	US 2001-7779	20011130
PRAI US 1998-77924P	P	19980313		
US 1999-267795	B1	19990312		
WO 1999-US5438	W	19990312		

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 18 OF 42 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2000:42551 CAPLUS
DN 132:147155

TI Antisense inhibition of syndecan-3 expression during skeletal muscle
differentiation accelerates myogenesis through a basic fibroblast growth
factor-dependent mechanism

AU Fuentealba, Luis; Carey, David J.; Brandan, Enrique

CS Department of Cell and Molecular Biology, Faculty of Biological Sciences,
Catholic University of Chile, Santiago, Chile

SO Journal of Biological Chemistry (1999), 274(53), 37876-37884

CODEN: JBCHA3; ISSN: 0021-9258

PB American Society for Biochemistry and Molecular Biology

DT Journal

LA English
RE.CNT 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 19 OF 42 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1999:315382 CAPLUS
DN 131:68233
TI A receptor-like protein-tyrosine phosphatase PTP.zeta./RTP.beta. binds a heparin-binding growth factor midkine. Involvement of arginine 78 of midkine in the high affinity binding to PTP.zeta.
AU Maeda, Nobuaki; Ichihara-Tanaka, Keiko; Kimura, Terutoshi; Kadomatsu, Kenji; Muramatsu, Takashi; Noda, Masaharu
CS Division of Molecular Neurobiology, National Institute for Basic Biology, and Department of Molecular Biomechanics, Graduate University for Advanced Studies, Okazaki, 444-8585, Japan
SO Journal of Biological Chemistry (1999), 274(18), 12474-12479
CODEN: JBCHA3; ISSN: 0021-9258
PB American Society for Biochemistry and Molecular Biology
DT Journal
LA English

RE.CNT 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 20 OF 42 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1999:571503 CAPLUS
DN 131:284251
TI Regulated expression and subcellular localization of syndecan heparan sulfate proteoglycans and the syndecan-binding protein CASK/LIN-2 during rat brain development
AU Hsueh, Yi-Ping; Sheng, Morgan
CS Howard Hughes Medical Institute and Department of Neurobiology, Massachusetts General Hospital and Harvard Medical School, Boston, MA, 02114, USA
SO Journal of Neuroscience (1999), 19(17), 7415-7425
CODEN: JNRSDS; ISSN: 0270-6474
PB Society for Neuroscience
DT Journal
LA English

RE.CNT 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 21 OF 42 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1999:117168 CAPLUS
DN 130:279785
TI Regulatory role and molecular interactions of a cell-surface heparan sulfate proteoglycan (N-syndecan) in hippocampal long-term potentiation
AU Lauri, S. E.; Kaukinen, S.; Kinnunen, T.; Ylinen, A.; Imai, S.; Kaila, K.; Taira, T.; Rauvala, H.
CS Department of Biosciences, Division of Animal Physiology, University of Helsinki, Helsinki, 00014, Finland
SO Journal of Neuroscience (1999), 19(4), 1226-1235
CODEN: JNRSDS; ISSN: 0270-6474
PB Society for Neuroscience
DT Journal
LA English

RE.CNT 67 THERE ARE 67 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 22 OF 42 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1999:738584 CAPLUS
DN 132:33745
TI Expression of proteoglycan core proteins in human bone marrow stroma
AU Schofield, Karen P.; Gallagher, John T.; David, Guido
CS Department of Medical Oncology, Paterson Institute for Cancer Research, Manchester, M20 4BX, UK
SO Biochemical Journal (1999), 343(3), 663-668
CODEN: BIJOAK; ISSN: 0264-6021
PB Portland Press Ltd.
DT Journal
LA English

RE.CNT 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 23 OF 42 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2000:53102 CAPLUS
DN 132:306779

TI Expression pattern alterations of syndecans and glypican-1 in normal and pathological trophoblast
AU Crescimanno, Caterina; Marzioni, Daniela; Paradinas, Fernando J.; Schrurs, Brigitte; Muhlhauser, Judith; Todros, Tullia; Newlands, Edward; David, Guido; Castellucci, Mario
CS Institute of Anatomy and Histology, University of Verona, Italy
SO Journal of Pathology (1999), 189(4), 600-608
CODEN: JPTLAS; ISSN: 0022-3417
PB John Wiley & Sons Ltd.
DT Journal
LA English
RE.CNT 37 THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 24 OF 42 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
AN 1999:173836 BIOSIS
DN PREV199900173836
TI Domain structure of pleiotrophin required for transformation.
AU Zhang, N.; Zhong, R.; Deuel, T. F.
CS Div. Growth Regulation, Beth Israel Deaconess Med. Center, Harvard Med. Sch., 330 Brookline Ave., Boston, MA 02215, USA
SO Proceedings of the American Association for Cancer Research Annual Meeting, (March, 1999) Vol. 40, pp. 369. print.
Meeting Info.: 90th Annual Meeting of the American Association for Cancer Research. Philadelphia, Pennsylvania, USA. April 10-14, 1999. American Association for Cancer Research.
ISSN: 0197-016X.
DT Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
LA English
ED Entered STN: 5 May 1999
Last Updated on STN: 5 May 1999

L5 ANSWER 25 OF 42 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1999:103214 CAPLUS
DN 130:278226
TI Interactions of neural glycosaminoglycans and proteoglycans with protein ligands: assessment of selectivity, heterogeneity and the participation of core proteins in binding
AU Herndon, Mary E.; Stipp, Christopher S.; Lander, Arthur D.
CS Department of Experimental Pathology, Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA, 02215, USA
SO Glycobiology (1999), 9(2), 143-155
CODEN: GLYCE3; ISSN: 0959-6658
PB Oxford University Press
DT Journal
LA English
RE.CNT 100 THERE ARE 100 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 26 OF 42 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1999:120544 CAPLUS
DN 130:280078
TI Levels of expression of pleiotrophin and protein tyrosine phosphatase.zeta. are decreased in human colorectal cancers
AU Yamakawa, Taishi; Kurosawa, Nobuyuki; Kadomatsu, Kenji; Matsui, Takanori; Itoh, Katsuki; Maeda, Nobuaki; Noda, Masaharu; Muramatsu, Takashi
CS Department of Biochemistry, Nagoya University School of Medicine, Showa-ku, Nagoya, 466, Japan
SO Cancer Letters (Shannon, Ireland) (1999), 135(1), 91-96
CODEN: CALEDQ; ISSN: 0304-3835
PB Elsevier Science Ireland Ltd.
DT Journal
LA English
RE.CNT 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 27 OF 42 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1999:438348 CAPLUS
DN 131:241507
TI Syndecan-4 expression is associated with follicular atresia in mouse ovary
AU Ishiguro, Kazuhiro; Kojima, Tetsuhito; Taguchi, Osamu; Saito, Hidehiko; Muramatsu, Takashi; Kadomatsu, K.
CS First Department of Internal Medicine, Nagoya University School of Medicine, Nagoya, 466-8550, Japan
SO Histochemistry and Cell Biology (1999), 112(1), 25-33

CODEN: HCBIFP; ISSN: 0948-6143

PB Springer-Verlag
DT Journal
LA English

RE.CNT 59 THERE ARE 59 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 28 OF 42 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1998:296500 CAPLUS

DN 129:39129

TI Cortactin-Src kinase signaling pathway is involved in N-syndecan-dependent neurite outgrowth

AU Kinnunen, Tarja; Kaksonen, Marko; Saarinen, Juhani; Kalkkinen, Nisse; Peng, H. Benjamin; Rauvala, Heikki

CS Laboratory of Molecular Neurobiology, Institute of Biotechnology, University of Helsinki, Helsinki, 00014, Finland

SO Journal of Biological Chemistry (1998), 273(17), 10702-10708

CODEN: JBCHA3; ISSN: 0021-9258

PB American Society for Biochemistry and Molecular Biology

DT Journal

LA English

RE.CNT 56 THERE ARE 56 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 29 OF 42 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1998:238845 CAPLUS

DN 129:26434

TI Syndecan-1 is up-regulated in ras-transformed intestinal epithelial cells

AU Wong, Z. M.; Choo, B.; Li, M.; Carey, D. J.; Cano-Gauci, D. F.; Buick, R. N.

CS Ontario Cancer Institute and Department of Medical Biophysics, University of Toronto, Toronto, ON, M5G 2M9, Can.

SO British Journal of Cancer (1998), 77(6), 890-896

CODEN: BJCAAI; ISSN: 0007-0920

PB Churchill Livingstone

DT Journal

LA English

RE.CNT 48 THERE ARE 48 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 30 OF 42 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1998:297563 CAPLUS

DN 129:36611

TI Nitric oxide mediates interleukin-1-induced gene expression of matrix metalloproteinases and basic fibroblast growth factor in cultured rabbit articular chondrocytes

AU Sasaki, Kazuhiro; Hattori, Takako; Fujisawa, Takuo; Takahashi, Kojiro; Inoue, Hajime; Takigawa, Masaharu

CS Department of Biochemistry and Molecular Dentistry, Okayama University Dental School, Okayama, 700-8525, Japan

SO Journal of Biochemistry (Tokyo) (1998), 123(3), 431-439

CODEN: JOBIAO; ISSN: 0021-924X

PB Japanese Biochemical Society

DT Journal

LA English

RE.CNT 49 THERE ARE 49 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 31 OF 42 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1998:785868 CAPLUS

DN 130:165874

TI The possible role of the cytosolic domain of heparan sulfate proteoglycan, syndecan

AU Yoneda, A.

CS Biosignaling Dep., Natl. Inst. Biosci. Human-Technology, Agency of Industrial Science and Technology, Tsukuba, Ibaraki, 305-8566, Japan

SO Trends in Glycoscience and Glycotechnology (1998), 10(55), 417-419

CODEN: TGGLEE; ISSN: 0915-7352

PB FCCA

DT Journal; General Review

LA English/Japanese

L5 ANSWER 32 OF 42 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1998:462890 CAPLUS

DN 129:229241

TI Disrupted expression of matrix genes in the growth plate of the mouse

cartilage matrix deficiency (cmd) mutant
 AU Wai, Albert W. K.; Ng, Ling Jim; Watanabe, Hideto; Yamada, Yoshihiko; Tam, Patrick P. L.; Cheah, Kathryn S. E.
 CS Department of Biochemistry, The University of Hong Kong, Hong Kong, Peop. Rep. China
 SO Developmental Genetics (New York) (1998), 22(4), 349-358
 CODEN: DGNTDW; ISSN: 0192-253X
 PB Wiley-Liss, Inc.
 DT Journal
 LA English
 RE.CNT 59 THERE ARE 59 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 33 OF 42 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 1998:736816 CAPLUS
 DN 130:107742
 TI Syndecan-3 in limb skeletal development
 AU Kosher, Robert A.
 CS Department of Anatomy, University of Connecticut Health Center, Farmington, CT, 06030, USA
 SO Microscopy Research and Technique (1998), 43(2), 123-130
 CODEN: MRTEEO; ISSN: 1059-910X
 PB Wiley-Liss, Inc.
 DT Journal; General Review
 LA English
 RE.CNT 97 THERE ARE 97 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 34 OF 42 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 1998:1559 CAPLUS
 DN 128:73898
 TI Transgenic animals expressing perlecan and amyloid genes at high levels and methods of identifying compounds for the treatment of amyloidoses
 IN Snow, Alan; Fukuchi, Ken-ichiro; Hassell, John
 PA University of Washington, USA
 SO PCT Int. Appl., 146 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9746664	A1	19971211	WO 1997-US9875	19970606
	W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	CA 2257304	AA	19971211	CA 1997-2257304	19970606
	AU 9736402	A1	19980105	AU 1997-36402	19970606
	EP 937137	A1	19990825	EP 1997-933136	19970606
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	JP 2000512141	T2	20000919	JP 1998-500882	19970606
	US 6563016	B1	20030513	US 2000-536231	20000327
	US 2003233669	A1	20031218	US 2003-384172	20030305
PRAI	US 1996-17830P	P	19960606		
	US 1997-870987	B1	19970606		
	WO 1997-US9875	W	19970606		
	US 2000-536231	A3	20000327		

L5 ANSWER 35 OF 42 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 1997:751496 CAPLUS
 DN 128:99089
 TI Phosphorylation of recombinant N-syndecan (syndecan 3) core protein
 AU Asundi, Vinod K.; Carey, David J.
 CS Department of Cellular and Molecular Physiology, Penn State College of Medicine, Henry Hood, MD, Research Program, Pennsylvania State University, Danville, PA, 17822-2613, USA
 SO Biochemical and Biophysical Research Communications (1997), 240(2), 502-506
 CODEN: BBRCA9; ISSN: 0006-291X
 PB Academic Press

DT Journal
LA English

RE.CNT 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 36 OF 42 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1997:709047 CAPLUS
DN 128:20913

TI Proteoglycan synthesis in hematopoietic cells: isolation and
characterization of heparan sulfate proteoglycans expressed by the
bone-marrow stromal cell line MS-5
AU Drzeniek, Zofia; Siebertz, Barbara; Stocker, Georg; Just, Ursula;
Ostertag, Wolfram; Greiling, Helmut; Haubeck, Hans-Dieter
CS Med. Fac., Inst. Clin. Chem. Pathobiochem., Univ. Technol., Aachen,
D-52057, Germany
SO Biochemical Journal (1997), 327(2), 473-480
CODEN: BIJOAK; ISSN: 0264-6021
PB Portland Press
DT Journal
LA English

RE.CNT 60 THERE ARE 60 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 37 OF 42 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1997:302253 CAPLUS
DN 127:15683

TI FGF-stimulated outgrowth and proliferation of limb mesoderm is dependent
on syndecan-3
AU Dealy, Caroline N.; Seghatoleslami, M. Reza; Ferrari, Deborah; Kosher,
Robert A.
CS Department of Anatomy, University of Connecticut Health Center,
Farmington, CT, 06030, USA
SO Developmental Biology (1997), 184(2), 343-350
CODEN: DEBIAO; ISSN: 0012-1606
PB Academic
DT Journal
LA English

RE.CNT 56 THERE ARE 56 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 38 OF 42 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1997:270829 CAPLUS
DN 126:328582

TI Expression of syndecan-1 and -3 during embryogenesis of the central
nervous system in relation to binding with midkine
AU Nakanishi, Toru; Kadomatsu, Kenji; Okamoto, Tomomitsu; Ichihara-Tanaka,
Keiko; Kojima, Tetsuhito; Saito, Hidehiko; Tomoda, Yutaka; Muramatsu,
Takashi
CS Department Biochemistry, Department Obstetrics Gynecology, Nagoya
University School Medicine, Nagoya, 466, Japan
SO Journal of Biochemistry (Tokyo) (1997), 121(2), 197-205
CODEN: JOBIAO; ISSN: 0021-924X
PB Japanese Biochemical Society
DT Journal
LA English

L5 ANSWER 39 OF 42 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1997:50149 CAPLUS
DN 126:142401

TI Development and cell-type-specific expression of cell surface heparan
sulfate proteoglycans in the rat heart
AU Asundi, Vinod K.; Keister, Bonnie F.; Stahl, Richard C.; Carey, David J.
CS Sigfried and Janet Weis Center Res., Geisinger Clinic, Danville, PA,
17822, USA
SO Experimental Cell Research (1997), 230(1), 145-153
CODEN: ECREAL; ISSN: 0014-4827
PB Academic
DT Journal
LA English

L5 ANSWER 40 OF 42 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1996:541965 CAPLUS
DN 125:213282

TI 6B4 proteoglycan/phosphacan, an extracellular variant of receptor-like
protein-tyrosine phosphatase .zeta./RPTP.beta., binds pleiotrophin/heparin-
binding growth-associated molecule (HB-GAM)

AU Maeda, Nobuaki; Nishiwaki, Taeko; Shintani, Takafumi; Hamanaka, Hiroki;
Noda, Masaharu
CS Division of Mol. Neurobiology, Graduate Univ. for Advanced Studies,
Okazaki, 444, Japan
SO Journal of Biological Chemistry (1996), 271(35), 21446-21452
CODEN: JBCHA3; ISSN: 0021-9258
PB American Society for Biochemistry and Molecular Biology
DT Journal
LA English

L5 ANSWER 41 OF 42 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1996:733353 CAPLUS
DN 126:16973
TI Syndecan-3 and the control of chondrocyte proliferation during
endochondral ossification

AU Shimazu, Atsushi; Nah, Hyun-Duck; Kirsch, Thorsten; Koyama, Eiki;
Leatherman, Judith L.; Golden, Eleanor B.; Kosher, Robert A.; Pacifici,
Maurizio
CS Dept. of Anatomy-Histology, Univ. of Pennsylvania, Philadelphia, PA,
19104-6003, USA
SO Experimental Cell Research (1996), 229(1), 126-136
CODEN: ECREAL; ISSN: 0014-4827
PB Academic
DT Journal
LA English

L5 ANSWER 42 OF 42 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1994:290788 CAPLUS
DN 120:290788
TI Isolation of a neuronal cell surface receptor of heparin binding
growth-associated molecule (HB-GAM). Identification as N-syndecan
(syndecan-3)
AU Raulo, Erkki; Chernousov, Michael A.; Carey, David J.; Nolo, Riitta;
Rauvala, Heikki
CS Inst. Biotechnol., Univ. Helsinki, 00014, Finland
SO Journal of Biological Chemistry (1994), 269(17), 12999-3004
CODEN: JBCHA3; ISSN: 0021-9258
DT Journal
LA English

=> S ALK AND pleiotrophin
47 FILES SEARCHED...
L6 71 ALK AND PLEIOTROPHIN

=> DUP REM L6
DUPLICATE IS NOT AVAILABLE IN 'ADISINSIGHT, ADISNEWS, BIOCERCOMMERCE, DGENE,
DRUGMONOG2, IMSRESEARCH, FEDRIP, FOREGE, GENBANK, IMSPRODUCT, KOSMET,
MEDICONF, NUTRACEUT, PCTGEN, PHAR, PHARMAML, RDISCLOSURE, SYNTHLINE'.
ANSWERS FROM THESE FILES WILL BE CONSIDERED UNIQUE
PROCESSING COMPLETED FOR L6
L7 32 DUP REM L6 (39 DUPLICATES REMOVED)

=> D L7 1-32

L7 ANSWER 1 OF 32 USPATFULL on STN
AN 2004:95921 USPATFULL
TI Methods and compositions for regulating bone and cartilage formation
IN Pittman, Debra D., Windham, NH, UNITED STATES
Clancy, Brian M., Ashland, MA, UNITED STATES
PI US 2004073377 A1 20040415
AI US 2002-329056 A1 20021223 (10)
RLI Continuation-in-part of ser. No. US 2002-125691, filed on 18 Apr 2002,
PENDING
PRAI US 2001-284786P 20010418 (60)
DT Utility
FS APPLICATION
LN.CNT 12882
INCL INCLM: 702/020.000
NCL NCLM: 702/020.000
IC [7]
ICM: G06F019-00
ICS: G01N033-48; G01N033-50

L7 ANSWER 2 OF 32 USPATFULL on STN
AN 2004:94842 USPATFULL

TI Human RGR oncogene and truncated transcripts thereof detected in T cell malignancies, antibodies to the encoded polypeptides and methods of use
IN Pellicer, Angel, New York, NY, UNITED STATES
Leonardi, Peter, East Haven, CT, UNITED STATES
Inghirami, Giorgio, Mt. Vernon, NY, UNITED STATES
PA New York University, New York, NY, UNITED STATES, 10012 (U.S. corporation)
PI US 2004072295 A1 20040415
AI US 2003-625471 A1 20030723 (10)
PRAI US 2002-397873P 20020724 (60)
DT Utility
FS APPLICATION
LN.CNT 2231
INCL INCLM: 435/069.100
INCLS: 435/320.100; 435/325.000; 530/350.000; 536/023.500; 424/143.100; 530/388.220
NCL NCLM: 435/069.100
NCLS: 435/320.100; 435/325.000; 530/350.000; 536/023.500; 424/143.100; 530/388.220
IC [7]
ICM: C07K014-705
ICS: C07H021-04; A61K039-395; C07K016-30

L7 ANSWER 3 OF 32 USPATFULL on STN
AN 2004:50862 USPATFULL
TI Wound healing biomarkers
IN Burslem, Martyn Frank, Sandwich, UNITED KINGDOM
Johnson, Claire Michelle, sandwich, UNITED KINGDOM
Cooper, Lisa, London, UNITED KINGDOM
Martin, Paul, London, UNITED KINGDOM
PI US 2004038292 A1 20040226
AI US 2002-175184 A1 20020618 (10)
PRAI GB 2001-14869 20010618
US 2001-305346P 20010713 (60)
DT Utility
FS APPLICATION
LN.CNT 67123
INCL INCLM: 435/007.100
INCLS: 435/069.100; 435/226.000; 435/320.100; 435/325.000; 536/023.200
NCL NCLM: 435/007.100
NCLS: 435/069.100; 435/226.000; 435/320.100; 435/325.000; 536/023.200
IC [7]
ICM: G01N033-53
ICS: C07H021-04; C12P021-02; C12N005-06; C12N009-64
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 4 OF 32 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 1
AN 2004:30322 CAPLUS
DN 140:229892
TI Heparin affin regulatory peptide in milk: its involvement in mammary gland homeostasis
AU Bernard-Pierrot, Isabelle; Delbe, Jean; Heroult, Melanie; Rosty, Christophe; Soulie, Patrick; Barritault, Denis; Milhiet, Pierre-Emmanuel; Courty, Jose
CS Laboratoire de Recherche sur la Croissance Cellulaire, la Reparation et la Regeneration Tissulaires FRE CNRS No. 2412, Universite Paris Val de Marne, Creteil, 94010, Fr.
SO Biochemical and Biophysical Research Communications (2004), 314(1), 277-282
CODEN: BBRCA9; ISSN: 0006-291X
PB Elsevier Science
DT Journal
LA English
RE.CNT 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 5 OF 32 DISSABS COPYRIGHT (C) 2004 ProQuest Information and Learning Company; All Rights Reserved on STN
AN 2003:57834 DISSABS Order Number: AAI3085389
TI ***pleiotrophin*** signaling through PTNR in glioblastoma multiforme
AU Powers, Ciaran James [Ph.D.]; Wellstein, Anton [advisor]
CS Georgetown University Medical Center (0544)
SO Dissertation Abstracts International, (2003) Vol. 64, No. 3B, p. 1192.
Order No.: AAI3085389. 107 pages.
DT Dissertation
FS DAI

LA English
ED Entered STN: 20031201
Last Updated on STN: 20031201

L7 ANSWER 6 OF 32 DISSABS COPYRIGHT (C) 2004 ProQuest Information and Learning Company; All Rights Reserved on STN
AN 2003:57837 DISSABS Order Number: AAI3085392
TI The role of insulin receptor substrate-1 in anaplastic lymphoma kinase signaling
AU Kuo, Angera H. [Ph.D.]; Wellstein, Anton [advisor]
CS Georgetown University Medical Center (0544)
SO Dissertation Abstracts International, (2003) Vol. 64, No. 3B, p. 1042. Order No.: AAI3085392. 171 pages.
DT Dissertation
FS DAI
LA English
ED Entered STN: 20031201
Last Updated on STN: 20031201

L7 ANSWER 7 OF 32 NTIS COPYRIGHT 2004 NTIS on STN
AN 2004(01):00646 NTIS Order Number: ADA416741/XAB
TI ***Pleiotrophin*** Signaling Through PTNR in Breast Cancer. Annual summary 1 Apr 2000-31 Mar 2003.
AU Kuo, A. H.
CS George Washington Univ. Medical Center, Washington, DC. (053386000 392766)
NR ADA416741/XAB
11p; Apr 2003
NC Contract(s): DAMD17-00-1-0257
DT Report
CY United States
LA English
AV Product reproduced from digital image. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.
NTIS Prices: PC A03/MF A01
OS GRA&I0401

L7 ANSWER 8 OF 32 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:656409 CAPLUS
DN 139:185628
TI Method for enhancing bone density or formation by expressing recombinant secreted alkaline phosphatase
IN Kovesdi, Imre
PA GenVec, Inc., USA
SO U.S. Pat. Appl. Publ., 45 pp.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2003158132	A1	20030821	US 2002-53637	20020122
PRAI	US 2002-53637		20020122		

L7 ANSWER 9 OF 32 USPATFULL on STN
AN 2003:127047 USPATFULL
TI Methods and compositions for regulating bone and cartilage formation
IN Clancy, Brian M., Ashland, MA, UNITED STATES
Pittman, Debra D., Windham, NH, UNITED STATES
PI US 2003087259 A1 20030508
AI US 2002-125691 A1 20020418 (10)
PRAI US 2001-284786P 20010418 (60)
DT Utility
FS APPLICATION
LN.CNT 12451
INCL INCLM: 435/006.000
INCLS: 702/020.000
NCL NCLM: 435/006.000
NCLS: 702/020.000
IC [7]
ICM: C12Q001-68
ICS: G06F019-00; G01N033-48; G01N033-50
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 10 OF 32 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
AN 2003:503256 BIOSIS
DN PREV200300498835
TI The role of anaplastic lymphoma kinase in the interaction between tumor
cells and stroma.
AU Stoica, Gerald E. [Reprint Author]; Bowden, Emma T. [Reprint Author];
Henke, Ralf [Reprint Author]; Kuo, Angera H. [Reprint Author]; Lahusen,
John T. [Reprint Author]; Wellstein, Anton [Reprint Author]
CS Georgetown University, Washington, DC, USA
SO Proceedings of the American Association for Cancer Research Annual
Meeting, (July 2003) Vol. 44, pp. 1249. print.
Meeting Info.: 94th Annual Meeting of the American Association for Cancer
Research. Washington, DC, USA. July 11-14, 2003.
ISSN: 0197-016X.
DT Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
LA English
ED Entered STN: 29 Oct 2003
Last Updated on STN: 29 Oct 2003

L7 ANSWER 11 OF 32 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:332522 CAPLUS
DN 139:399646
TI Novel Osteoinductive Biomimetic Scaffolds Stimulate Human Osteoprogenitor
Activity-Implications for Skeletal Repair
AU Yang, X. B.; Green, D. W.; Roach, H. I.; Clarke, N. M. P.; Anderson, H.
C.; Howdle, S. M.; Shakesheff, K. M.; Oreffo, R. O. C.
CS Southampton General Hospital, University Orthopaedics, Southampton, UK
SO Connective Tissue Research (2003), 44(Suppl. 1), 312-317
CODEN: CVTRBC; ISSN: 0300-8207
PB Taylor & Francis, Inc.
DT Journal
LA English

RE.CNT 37 THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 12 OF 32 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
AN 2004:168354 BIOSIS
DN PREV200400162166
TI ***pleiotrophin*** signal disruption of cell-cell adhesion,
translocation of beta-catenin to the nucleus, and association of
beta-catenin with different transcription activators in
pleiotrophin -stimulated cells.
AU Pinera, Pablo Perez [Reprint Author]; Deuel, Thomas F. [Reprint Author];
Vega-Alvarez, Jose A.
CS Molecular and Experimental Medicine, Scripps Research Institute, La Jolla,
CA, USA
SO Blood, (November 16 2003) Vol. 102, No. 11, pp. 201b. print.
Meeting Info.: 45th Annual Meeting of the American Society of Hematology.
San Diego, CA, USA. December 06-09, 2003. American Society of Hematology.
CODEN: BLOOAW. ISSN: 0006-4971.
DT Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
LA English
ED Entered STN: 24 Mar 2004
Last Updated on STN: 24 Mar 2004

L7 ANSWER 13 OF 32 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:51662 CAPLUS
DN 138:281547
TI Induction of human osteoprogenitor chemotaxis, proliferation,
differentiation, and bone formation by osteoblast stimulating factor-1/
pleiotrophin : osteoconductive biomimetic scaffolds for tissue
engineering
AU Yang, Xuebin; Tare, Rahul S.; Partridge, Kris A.; Roach, Helmut I.;
Clarke, Nicholas M. P.; Howdle, Steven M.; Shakesheff, Kevin M.; Oreffo,
Richard O. C.
CS University Orthopaedics, University of Southampton, Southampton, UK
SO Journal of Bone and Mineral Research (2003), 18(1), 47-57
CODEN: JBMREJ; ISSN: 0884-0431
PB American Society for Bone and Mineral Research
DT Journal
LA English
RE.CNT 53 THERE ARE 53 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 14 OF 32 NTIS COPYRIGHT 2004 NTIS on STN
AN 2003(05):00175 NTIS Order Number: ADA407244/XAB
TI ***Pleiotrophin*** Signaling Through PTNR in Breast Cancer. Annual
summary rept. 1 Apr 2001-31 Mar 2002.
AU Kuo, A. H.
CS Georgetown Univ., Washington, DC. (011489000 153600)
NR ADA407244/XAB
13p; Apr 2002
NC Contract(s): DAMD17-00-1-0257
DT Report
CY United States
LA English
AV Product reproduced from digital image. Order this product from NTIS by:
phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other
countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is
located at 5285 Port Royal Road, Springfield, VA, 22161, USA.
NTIS Prices: PC A03/MF A01
OS GRA&I0305

L7 ANSWER 15 OF 32 NTIS COPYRIGHT 2004 NTIS on STN
AN 2003(13):00050 NTIS Order Number: ADA410204/XAB
TI Gene Regulation and Expression Pattern of the Growth Factor
Pleiotrophin in Breast Cancer. Annual summary 1 Sep 2001-31 Aug
2002.
AU Stoica, G. E.
CS Georgetown Univ., Washington, DC. Medical Center. (011489008 153650)
NR ADA410204/XAB
13p; Sep 2002
NC Contract(s): DAMD17-99-1-9204
DT Report
CY United States
LA English
AV Product reproduced from digital image. Order this product from NTIS by:
phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other
countries); fax at (703)605-6900; and email at orders@ntis.gov. NTIS is
located at 5285 Port Royal Road, Springfield, VA, 22161, USA.
NTIS Prices: PC A03/MF A01
OS GRA&I0313

L7 ANSWER 16 OF 32 IFIPAT COPYRIGHT 2004 IFI on STN DUPLICATE 2
AN 10091205 IFIPAT;IFIUDB;IFICDB
TI ***PLEIOTROPHIN*** GROWTH FACTOR RECEPTOR FOR THE TREATMENT OF
PROLIFERATIVE, VASCULAR AND NEUROLOGICAL DISORDERS; COMPLEX OF A
PLEIOTROPHIN PROTEIN AND A ***PLEIOTROPHIN*** -RECEPTOR
PROTEIN
IN Wellstein Anton
PA Unassigned Or Assigned To Individual (68000)
PI US 2002034768 A1 20020321
AI US 2001-880097 20010614
PRAI US 2000-211491P 20000614 (Provisional)
FI US 2002034768 20020321
DT Utility; Patent Application - First Publication
FS CHEMICAL
APPLICATION
CLMN 68
GI 9 Figure(s).
FIG. 1 (a) Schematic of ***ALK*** gene showing factor binding sites.
(b) Binding of the PTN to recombinant ECD of ***ALK***. (c) SELDI
analysis of PTN-ligand binding. (d) SELDI analysis of conditioned media,
initial PTN binding to ECD, and completed PTN binding to ECD.
FIG. 2 (a) Competition of PTN binding to 32D/ ***ALK*** -transfected
cells, and (b) saturation binding of PTN to 32D/ ***ALK*** and 32D/
control cells.
FIG. 3 (a) SW-13 or SW-13/ ***ALK*** cells stimulated with PTN and
immunoprecipitated with anti-PY, anti- ***ALK***, or anti-IRS-1
antibodies. (b) SW-13/ ***ALK*** cells stimulated with PTN, ECD or
anti-PTN and immunoprecipitated with anti-PY or WB anti-PTN. (c) PTN
stimulation of SW-13/ ***ALK*** cells immunoprecipitated with anti-PY.
FIG. 4 Affect of ***ALK*** overexpression on PTN-stimulated growth.
FIG. 5 (a-d) ***ALK*** expression in human GBM tissue and cell lines.
(e) Detection of ***ALK*** mRNA in various cell lines by RNase
protection.
FIG. 6 (a-c) ***pleiotrophin*** -induced AKT phosphorylation in U87MG
cells.
FIG. 7 (a) Autoradiogram and (b) quantitation by phosphoimager analysis of
ALK mRNA. (c) Dose response of ***pleiotrophin***, and (d)

PDGF BB on phosphoAkt/Akt. (e) Comparison of the effect of PTN as a function of ***ALK*** levels in different cell lines.
FIG. 8 Xenograft tumor growth showing (a) size and (b) relative ***ALK*** /GAPDH as a function of time after tumor cell inoculation. (c) Mice survival curves from panel (a).
FIG. 9 Analysis of mitosis and apoptosis in tumor xenografts using (a) a high power (400 X) H & E (left column) and TUNEL (right column) stained sections from size-matched pRC/CMV (upper row) and RZ1-2 (lower row) xenograft tumors. (b) Number of mitotic figures and TUNEL positive cells as a function of relative ***ALK*** levels.

- L7 ANSWER 17 OF 32 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
DUPLICATE 3
AN 2002:571641 BIOSIS
DN PREV200200571641
TI Midkine binds to anaplastic lymphoma kinase (***ALK***) and acts as a growth factor for different cell types.
AU Stoica, Gerald E.; Kuo, Angera; Powers, Ciaran; Bowden, Emma T.; Sale, Elaine Buchert; Riegel, Anna T.; Wellstein, Anton [Reprint author]
CS Lombardi Cancer Center, Georgetown University, 3970 Reservoir Rd., N. W., Washington, DC, 20007, USA
wellstea@georgetown.edu
SO Journal of Biological Chemistry, (September 27, 2002) Vol. 277, No. 39, pp. 35990-35998. print.
CODEN: JBCHA3. ISSN: 0021-9258.
DT Article
LA English
ED Entered STN: 7 Nov 2002
Last Updated on STN: 7 Nov 2002
- L7 ANSWER 18 OF 32 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
DUPLICATE 4
AN 2002:571627 BIOSIS
DN PREV200200571627
TI Anti-apoptotic signaling of ***pleiotrophin*** through its receptor, anaplastic lymphoma kinase.
AU Bowden, Emma T.; Stoica, Gerald E.; Wellstein, Anton [Reprint author]
CS Dept. of Oncology, Lombardi Cancer Center, Medical School, Georgetown University, 3970 Reservoir Rd., NW, Research Bldg. E311, Washington, DC, 20007-2197, USA
wellstea@georgetown.edu
SO Journal of Biological Chemistry, (September 27, 2002) Vol. 277, No. 39, pp. 35862-35868. print.
CODEN: JBCHA3. ISSN: 0021-9258.
DT Article
LA English
ED Entered STN: 7 Nov 2002
Last Updated on STN: 7 Nov 2002
- L7 ANSWER 19 OF 32 CANCERLIT on STN DUBLICATE 5
AN 2002192907 CANCERLIT
DN 22191306 PubMed ID: 12070152
TI Dominant negative effectors of heparin affin regulatory peptide (HARP) angiogenic and transforming activities.
AU Bernard-Pierrot Isabelle; Delbe Jean; Rouet Vincent; Vigny Marc; Kerros Marie-Emmanuelle; Caruelle Daniele; Raulais Daniel; Barritault Denis; Courty Jose; Milhiet Pierre Emmanuel
CS Laboratoire de recherche sur la Croissance Cellulaire, la Reparation et la Regeneration Tissulaires (CRRET), CNRS UPRES-A 7053, Universite Paris XII, Avenue du General de Gaulle, 94010 Creteil Cedex, France.
SO JOURNAL OF BIOLOGICAL CHEMISTRY, (2002 Aug 30) 277 (35) 32071-7.
Journal code: 2985121R. ISSN: 0021-9258.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS MEDLINE; Priority Journals
OS MEDLINE 2002452367
EM 200210
ED Entered STN: 20021115
Last Updated on STN: 20021115
- L7 ANSWER 20 OF 32 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
DUPLICATE 6
AN 2002:420194 BIOSIS
DN PREV200200420194
TI ***Pleiotrophin*** signaling through anaplastic lymphoma kinase is

rate-limiting for glioblastoma growth.

AU Powers, Ciaran; Aigner, Achim; Stoica, Gerald E.; McDonnell, Kevin;
Wellstein, Anton [Reprint author]

CS Dept. of Oncology, Georgetown University, 3970 Reservoir Rd., Washington,
DC, 20007, USA
wellstea@georgetown.edu

SO Journal of Biological Chemistry, (April 19, 2002) Vol. 277, No. 16, pp.
14153-14158. print.
CODEN: JBCHA3. ISSN: 0021-9258.

DT Article
LA English
ED Entered STN: 7 Aug 2002
Last Updated on STN: 7 Aug 2002

L7 ANSWER 21 OF 32 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2002:576776 CAPLUS
DN 137:320649
TI ***Pleiotrophin*** regulates bone morphogenetic protein (BMP)-induced
ectopic osteogenesis

AU Sato, Yasuko; Takita, Hiroko; Ohata, Noboru; Tamura, Masato; Kuboki,
Yoshinori

CS Department of Oral Functional Science, Graduate School of Dental Medicine,
Hokkaido University, Sapporo, 060-8586, Japan

SO Journal of Biochemistry (Tokyo, Japan) (2002), 131(6), 877-886
CODEN: JOBIAO; ISSN: 0021-924X

PB Japanese Biochemical Society
DT Journal
LA English

RE.CNT 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 22 OF 32 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2002:465423 CAPLUS
DN 137:228256
TI Human secretory signal peptide description by hidden Markov model and
generation of a strong artificial signal peptide for secreted protein
expression

AU Barash, Steve; Wang, Wei; Shi, Yanggu

CS Department of Information Technology, Human Genome Sciences, Inc.,
Rockville, MD, 20850, USA

SO Biochemical and Biophysical Research Communications (2002), 294(4),
835-842
CODEN: BBBCA9; ISSN: 0006-291X

PB Elsevier Science
DT Journal
LA English

RE.CNT 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 23 OF 32 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
AN 2002:396011 BIOSIS
DN PREV200200396011
TI Abrogation of IL-3 dependence requires co-expression of the anaplastic
lymphoma kinase receptor and its major substrate, IRS-1, in 32D cells.

AU Kuo, Angera H. [Reprint author]; Stoica, Gerald E. [Reprint author];
Riegel, Anna T. [Reprint author]; wellstein, Anton [Reprint author]

CS Lombardi Cancer Center, Georgetown University, Washington, DC, USA

SO Proceedings of the American Association for Cancer Research Annual
Meeting, (March, 2002) Vol. 43, pp. 725. print.
Meeting Info.: 93rd Annual Meeting of the American Association for Cancer
Research. San Francisco, California, USA. April 06-10, 2002.
ISSN: 0197-016X.

DT Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)

LA English
ED Entered STN: 24 Jul 2002
Last Updated on STN: 24 Jul 2002

L7 ANSWER 24 OF 32 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
AN 2002:332497 BIOSIS
DN PREV200200332497
TI Ribozyme-targeting elucidates the role of the growth factor
pleiotrophin (PTN) and of the newly identified PTN-receptor PTN-R/
ALK in tumor growth.

AU Czubayko, Frank [Reprint author]; Malerczyk, Claudius [Reprint author];
Aigner, Achim [Reprint author]

CS Dept. of Pharmacology and Toxicology, Philipps-University, 35033, Marburg,
Germany

SO Naunyn-Schmiedeberg's Archives of Pharmacology, (March, 2002) Vol. 365,
No. Supplement 1, pp. R9. print.
Meeting Info.: 43rd Spring Meeting of the German Society for Experimental
and Clinical Pharmacology and Toxicology. Mainz, Germany. March 12-14,
2002.
CODEN: NSAPCC. ISSN: 0028-1298.

DT Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)

LA English

ED Entered STN: 12 Jun 2002
Last updated on STN: 12 Jun 2002

L7 ANSWER 25 OF 32 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN
AN 2002:402436 SCISEARCH
GA The Genuine Article (R) Number: 542EQ
TI Ribozyme-targeting elucidates the role of the growth factor
pleiotrophin (PTN) and of the newly identified PTN-receptor PTN-R/
ALK in tumor growth

AU Czubayko F (Reprint); Malerczyk C; Aigner A
CS Univ Marburg, Dept Pharmacol & Toxicol, D-35033 Marburg, Germany
CYA Germany

SO NAUNYN-SCHMIEDEBERGS ARCHIVES OF PHARMACOLOGY, (MAR 2002) Vol. 365, Supp.
[1], pp. R9-R9. MA 24.
Publisher: SPRINGER-VERLAG, 175 FIFTH AVE, NEW YORK, NY 10010 USA.
ISSN: 0028-1298.

DT Conference; Journal

LA English

REC Reference Count: 0

L7 ANSWER 26 OF 32 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
AN 2003:379984 BIOSIS
DN PREV200300379984
TI HB - GAM IN NEURONAL PROLIFERATION AND MIGRATION: REVEALING THE ROLES OF
THREE POSSIBLE RECEPTORS.

AU Hienola, A. E. [Reprint Author]; Kinnunen, T.; Rauvala, H. [Reprint
Author]

CS Univ Helsinki, Helsinki, Finland

SO Society for Neuroscience Abstract Viewer and Itinerary Planner, (2002)
Vol. 2002, pp. Abstract No. 818.1. <http://sfn.scholarone.com>. cd-rom.
Meeting Info.: 32nd Annual Meeting of the Society for Neuroscience.
Orlando, Florida, USA. November 02-07, 2002. society for Neuroscience.

DT Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
Conference; (Meeting Poster)

LA English

ED Entered STN: 20 Aug 2003
Last updated on STN: 20 Aug 2003

L7 ANSWER 27 OF 32 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN
AN 2002-09978 BIOTECHDS
TI New ***pleiotrophin*** growth factor receptor proteins and
polynucleotides, useful for treating or preventing proliferative (e.g.,
cancer), vascular and neurological disorders;
recombinant protein gene, vector expression in host cell, antibody,
hybridoma cell culture, sense and antisense molecule useful in disease
gene therapy and drug screening

AU WELLSTEIN A
PA UNIV GEORGETOWN MEDICAL CENT
PI WO 2001096394 20 Dec 2001
AI WO 2000-US18938 14 Jun 2000
PRAI US 2000-211491 14 Jun 2000

DT Patent

LA English

OS WPI: 2002-179508 [23]

L7 ANSWER 28 OF 32 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
DUPLICATE 8
AN 2001:390198 BIOSIS
DN PREV200100390198
TI Identification of anaplastic lymphoma kinase as a receptor for the growth
factor ***pleiotrophin***

AU Stoica, Gerald E.; Kuo, Angera; Aigner, Achim; Sunitha, Iruvanti; Souttou,
Boussad; Malerczyk, Claudius; Caughey, Dana J.; Wen, Duanzhi; Karavanov,
Alex; Riegel, Anna T.; wellstein, Anton [Reprint author]

CS Lombardi Cancer Center, Georgetown University, 3970 Reservoir Rd. NW,
Research Bldg. E311, Washington, DC, 20007, USA
wellstea@georgetown.edu
SO Journal of Biological Chemistry, (May 18, 2001) vol. 276, No. 20, pp.
16772-16779. print.
CODEN: JBCHA3. ISSN: 0021-9258.
DT Article
LA English
OS Genbank-AF149800; Genbank-AF236106; Genbank-M57399; Genbank-U66559
ED Entered STN: 15 Aug 2001
Last Updated on STN: 23 Feb 2002

L7 ANSWER 29 OF 32 Elsevier BIOBASE COPYRIGHT 2004 Elsevier science B.V.
on STN DUPLICATE
AN 2001226381 ES BIOBASE
TI Translocations involving anaplastic lymphoma kinase (***ALK***)
AU Duyster J.; Bai R.-Y.; Morris S.W.
CS J. Duyster, Department of Internal Medicine III, Laboratory of
Leukemogenesis, Technical University of Munich, Ismaningerstr 22, 81675
Munich, Germany.
E-mail: justus.duyster@lrz.tum.de
SO Oncogene, (10 SEP 2001), 20/40 REV. ISS. 4 (5623-5637), 122 reference(s)
CODEN: ONCNES ISSN: 0950-9232
DT Journal; General Review
CY United Kingdom
LA English
SL English

L7 ANSWER 30 OF 32 US PATFULL on STN
AN 2000:18280 US PATFULL
TI Nucleic acid sequence of senescence associated gene
IN Funk, Walter, Hayward, CA, United States
PA Geron Corporation, Menlo Park, CA, United States (U.S. corporation)
PI US 6025194 20000215
AI US 1997-974180 19971119 (8)
DT Utility
FS Granted
LN.CNT 4667
INCL INCLM: 435/320.100
INCLS: 536/023.100; 536/023.500; 536/024.100; 435/320.100; 435/325.000
NCL NCLM: 435/320.100
NCLS: 435/325.000; 536/023.100; 536/023.500; 536/024.100
IC [7]
ICM: C07H021-04
ICS: C12N015-63; C12N015-85; C12N015-11
EXF 536/23.5; 536/23.1; 536/24.1; 435/320.1; 435/325
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 31 OF 32 FEDRIP COPYRIGHT 2004 NTIS on STN
AN 2004:159545 FEDRIP
NR CRISP 1R01CA10181-01
TI Inhibition of the ***ALK*** Receptor Kinase
SF Principal Investigator: WELLSTEIN, ANTON; WELLSTEA@GEORGETOWN.EDU,
LOMBARDI CANCER CTR, 3970 RESERVOIR RD NW
CSP GEORGETOWN UNIVERSITY, WASHINGTON, DIST OF COL
CSS Supported By: NATIONAL CANCER INSTITUTE
DB 2008 (/01/03)
FYR 2003
DE 2007 (/31/07)
FU New Award (Type 1)
FS National Institutes of Health

L7 ANSWER 32 OF 32 GENBANK.RTM. COPYRIGHT 2004 on STN

LOCUS (LOC): AB073169 GenBank (R)
GenBank ACC. NO. (GBN): AB073169
GenBank VERSION (VER): AB073169.1 GI:24106485
CAS REGISTRY NO. (RN): 466626-87-9
SEQUENCE LENGTH (SQL): 1054
MOLECULE TYPE (CI): mRNA; linear
DIVISION CODE (CI): Rodents
DATE (DATE): 18 Oct 2002
DEFINITION (DEF): Rattus norvegicus ***alk*** mRNA for anaplastic
lymphoma kinase, partial cds.
SOURCE: Rattus norvegicus intestine cDNA to mRNA.
ORGANISM (ORGN): Rattus norvegicus

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Euteleostomi; Mammalia; Eutheria; Rodentia;
Sciurognathi; Muridae; Murinae; Rattus

NUCLEIC ACID COUNT (NA): 237 a 296 c 287 g 234 t

REFERENCE:

AUTHOR (AU):

1
Asahina,K.; Sato,H.; Yamasaki,C.; Tateno,C.;
Kataoka,M.; Shiokawa,M.; Katayama,S.; Yoshizato,K.

TITLE (TI):

Pleiotrophin /HB-GAM as a Mitogen of Rat
Hepatocytes and Its Role in Regeneration and
Development of Liver

JOURNAL (SO):

Unpublished

REFERENCE:

AUTHOR (AU):

2 (bases 1 to 1054)

TITLE (TI):

Shiokawa,M.; Asahina,K.; Tateno,C.; Yoshizato,K.
Direct Submission

JOURNAL (SO):

Submitted (17-OCT-2001) Kinji Asahina, Hiroshima Tissue
Regeneration Project, Hiroshima Prefecture
Collabolation of Regional Entities for the Advancement
of Technological Excellence, Japan Science and
Technology Corporation, Hiroshima Prefectural Institute
of Industrial Science and Technology; Kagamiyama,
Higashihiroshima 739-8526, Japan (E-
mail:asahina@sankaken.gr.jp, Tel:81-824-31-0209,
Fax:81-821-31-0210)

FEATURES (FEAT):

Feature Key	Location	Qualifier
source	1..1054	/organism="Rattus norvegicus" /db-xref="taxon:10116" /tissue-type="intestine"
gene	1..1054	/gene="alk"
CDS	<1..>1054	/gene="alk" /codon-start=1 /product="anaplastic lymphoma kinase" /protein-id="BAC21663.1" /db-xref="GI:24106486" /translation="DPESHKVICFCDHGTVLADD GVSCIVSPTPEPHLPLSLILSVVT SALVAALVLAFFGIMIVYRKHQELQAMQMELQS PEYKLSKLRSTIMTDYNPNYCFA GKTSSISDLKEVPRKNITLIRGLGHGAFGEVYEG QVSGMPNDPSPLQVAVKTLPEVCS EQDELDFLMEALIISKFNHQNIVRCIGVSLQALP RFILLELMAGGDLKSFLRETRPRP NQPTSLAMLDLLHVARDIACGCQYLEENHFIHRD IAARNCLLTCPGAGRIAKIGDFGM ARDIYRASYYRKGCCAMLPVKWMPPEAFMEGIFT SKTDTWSFGVLLWEIFSLGYMPHP SKSNQEVLEFVTSGGRM"

SEQUENCE (SEQ):

```
1 gacccccgaga gccacaaagt catctgcttc tgtgaccatg ggaccgtgct ggctgacgat
61 ggtgtctcct gcattgtgtc gcccaccccc gaacccccacc tgccgctctc attgatcctc
121 tccgtcgtga cctctgccct ggtggccgct ctcggttctgg cattcccccg catcatgatt
181 gtgtaccgcc ggaagcacca ggagttgcaa gctatgcaga tggagctgca gagccctgag
241 tataagctga gcaagctacg gacctcgacc atcatgacag actacaaccc caactactgc
301 tttgctggca agacttcatc catcagtgac ctgaaggagg tgccctcgaa aaacatcacc
361 ctaccccgga gcctaggcca tggcgcattt ggggagggtg atgaaggcca ggtatctgga
421 atgcccattg acccaagccc tctacaagtg gctgtaaaga cgctgccgga agtgtgttca
481 gagcaagatg agctggactt cctcatggaa gctctgatca tcagtaaatt caaccaccag
541 aacattgtcc gctgcatcgg ggtgagtctg caagccctgc cccgcttcat cctgctggag
601 ctcattggctg gtggagacct caagtcctc ctcagggaga cacgtcctc cccgaaccag
661 cccacctccc tggccatggt ggatcttctg cacgtagctc gggacattgc ctgtggctgt
721 cagtacctgg aggaaaatca ctttatccac cgcgatattg ctgctagaaa ctgtctgctg
781 acctgtccgg gagctggag gatagcgaag atcggagact tcgggatggc ccgagatata
841 tacagggccg gctactacag aaagggaggc tgtgcatgct tgccagtgaa gtggatgcc
901 cggaggcctc tcatggaagg aatatttact tctaaaacag atacatggtc ttttggagtg
961 ttgctgtggg aaatattttc tcttgatat atgccacacc ccagcaagag caaccaggaa
1021 gttctggagt ttgtcaccag cggaggacgg atgg
```